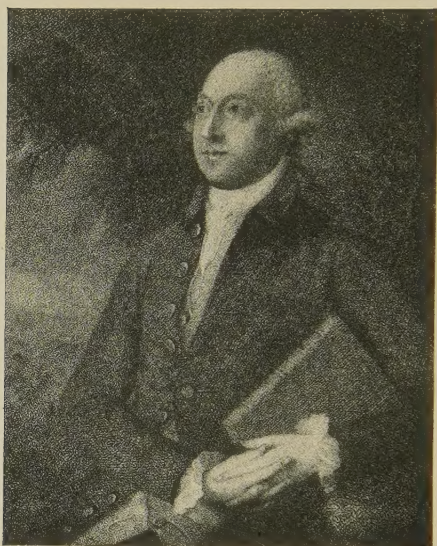


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THOMAS PENNANT (*aet*at 50). From a Mezzotint
after T. Gainsborough.

DOWNING HALL—PENNANT'S HOME. From a Sketch
by T. Lynes, dated 26th August, 1785.

[*Frontispiece.*

THE
VERTEBRATE FAUNA
OF
NORTH WALES

BY
H. E. FORREST

AUTHOR OF "THE FAUNA OF SHROPSHIRE"
ETC. ETC.

WITH TWENTY-EIGHT PLATES AND A MAP

WITHERBY & CO.
326 HIGH HOLBORN LONDON
1907

PREFACE.

DESPITE its unrivalled scenic attractions and its popularity as a health resort, North Wales has hitherto received scant attention from zoologists, references to the district in standard works on British vertebrates being comparatively few, and in many cases erroneous.

On more than one occasion the need of a comprehensive and authoritative book on the Vertebrates of Wales has been publicly expressed. It was to meet this need, in so far as it concerned the northern half of the Principality, that the present work was undertaken.

It was recognized from the first that such a work was beyond the power of any one man; it could only be accomplished by the co-operation of naturalists throughout the district. The help required was so readily accorded that in the comparatively short space of seven years the necessary data were collected and reduced to order. The present volume is the result, and the writer here wishes to tender his sincere thanks to each and all of those whose names appear in the List of Contributors. Without their aid this book could never have been written. Their individual contributions are mentioned in detail under each species, but the reader must not conclude therefrom that all the data supplied are printed in the book, many thousands of entries have, of necessity, been omitted. In gauging the exact distribution of each species in the district nothing has been taken for granted. My plan has been, first, to transcribe under their proper headings all the data, but if these showed no essential variation in the status of a particular species in different parts of the district, then all the local

records were omitted. In the Stoat, Kestrel, or Spotted Flycatcher, for instance, the inclusion of all the facts collected would have involved printing about two hundred entries in each case, and thus much valuable space would have been occupied to no useful purpose.

The mere labour of transcribing such a mass of material was very great, but a large share of this preliminary work was undertaken by Mr. Rosse Butterfield, to whom my sincere thanks are due. Mr. C. S. Meares also was good enough to aid in this way.

But beyond all others I am indebted to Mr. Sydney G. Cummings and Mr. Charles Oldham, for constant supervision of the work, both in its initial and final stages. Their criticism and advice have been most helpful. Mr. O. V. Aplin also has given much valuable assistance of the same character.

When the work was first drafted Mr. G. H. Caton Haigh was kind enough to look through the MSS. and add notes with reference to the neighbourhood of Penrhyndeudraeth; these have proved most valuable, and I am greatly indebted to him for them and additional notes sent from time to time.

For permission to use photographs as illustrations I am indebted to Messrs. T. J. Davies, J. Franklin, W. E. Harding, John and Wallace Heath, R. J. Irwin, F. S. Jackson, A. G. Lawson, Oliver G. Pike, V. Wilson, and Mrs. New, whilst for the unpublished contemporary sketch of Pennant's house at Downing I have to thank Mr. D. G. Goodwin.

Mr. H. F. Witherby has bestowed much time and care in general supervision of the book whilst passing through the press, and I desire here to record my hearty thanks to him for his very practical help.

It should be recognized that this *Fauna of North Wales* is to a great extent a pioneer work. The whole of Montgomeryshire, Snowdonia, and the central parts of the district were practically unknown to the zoologist, whilst only the Birds of the remaining portions had received adequate treat-

ment. Under these circumstances it would be unreasonable to expect complete immunity from error, but, as far as possible, all doubtful records have been eliminated or, if retained, their dubious character has been distinctly indicated.

Furthermore, it should be understood that there are blanks in the record that it has been impossible to fill owing to lack of resident observers. The records from Snowdonia and the central moorlands, for example, are derived almost entirely from the observations of naturalists who have visited those districts from time to time, and there are few or no *winter* records from these districts.

In North Wales, as elsewhere, the Birds have been studied far more than the Mammals, Reptiles, or Fishes. It is much to be regretted that the latter groups have been so neglected by naturalists in the past, especially as they may be so easily studied at the same time as the Birds. For want of proper records many of our Mammals (such as the Polecat) have vanished from large areas in England, leaving scarcely a trace of their former existence in those parts. Further researches amongst the Marine Fishes of Wales would almost certainly add to the already extensive list of species. I should be glad to be informed of any errors detected in this volume, or to hear of additional records. These I propose to publish later on in the form of a supplement.

Finally, may I suggest to any naturalist having the time and inclination for the work, that a companion volume on the Fauna of *South* Wales is much needed? All the notes on that district that I have collected would be gladly placed at his disposal.

H. EDWARD FORREST.

Hillside, Bayston Hill, Shrewsbury.

November, 1907.

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THE ZOOLOGISTS OF NORTH WALES.

THE earliest observations on the animals of North Wales, of which we have any record, are to be found in the pages of Giraldus Cambrensis. He travelled through Wales in 1188, and in the course of his *Itinerary* occasionally touches upon natural history subjects, though chiefly in connection with South Wales. Amongst other animals he mentions Deer, Wild Boars and Beavers, whilst he writes of Falcons "of a generous kind"; and of "the bird called the Aureolus (Golden Oriole) from the golden tint of its feathers," which he appears to have met with near Carnarvon.

About the middle of the sixteenth century, John Leland, the antiquary, was commissioned by Henry VIII. to collect information on the antiquities of England and Wales, and, in the course of his travels he visited many parts of North Wales. He was not a naturalist, but has jotted down several items of interest, and his account of Eagles at Dinas Brân, Llangollen, which is transcribed in the present volume under the head of Golden Eagle, is worthy of particular notice.

Not until 1639 have we any record of a true field-naturalist visiting North Wales. In that year William Johnson (well-known as the editor of the second edition of *Gerard's Herbal*, 1633), visited North Wales with two friends, one of them a Welshman who was to act as interpreter. Entering the principality at Chester,

they visited Flint, Holywell, Rhuddlan, Llandulas and Conway, where they were hospitably entertained at Bodysgallen, by Mr. R. Wynne. Next they essayed the fearsome passes over Penmaenbach and Penmaenmawr, travelling on to Bangor and Carnarvon, where they were the guests of Mr. Thomas Glynne of Glynllifon. From this centre they explored Anglesey, and made the ascents of Snowdon and Carnedd Llywelyn, finding many rare plants. On the last-named mountain Johnson refers to Eagles, of which his guide stood in great fear. The party returned to England by way of Harlech, Barmouth, and Montgomery. The botanical results of this journey were published in 1641. Johnson was born at Selby, Yorkshire, but the date of his birth is unknown.

It was, perhaps, in emulation of Johnson's example that a few years later (in 1658 and 1662), John Ray and Francis Willoughby made two expeditions into Wales, the second journey being the most productive as regards observations on the birds and fishes of the district. It is not necessary here to mention the pioneer work accomplished by these two English naturalists, but it is interesting to note that the influence of one of them roused a Welshman to the active study of the animals of his own country. Thomas Pennant relates in his *Literary Life* that a present of the *Ornithology* of Francis Willoughby made to him when about twelve years of age by John Salis-bury (father of the celebrated Mrs. Piozzi), "first gave him a taste for that study, and incidentally a love for that of natural history in general, which he had since pursued with constitutional ardour." Pennant was born at

Ray,
1628-1705.
Willoughby,
1635-1672.

Pennant,
1726-1798.

the ancestral Hall at Downing, near Mostyn, Flintshire, in 1726. Forty years later he issued the first edition of his *British Zoology*, completing it in four volumes in 1770. His *Tour in Wales* appeared in 1778; the complete work in two volumes in 1784. Both these were epoch-making works—the former because it was the first comprehensive attempt to deal with the fauna of Britain; the latter because it made known to the average Englishman a country which had hitherto been almost as unknown to him as Central Africa. Owing to the fact that the author's home was in North Wales, there are numerous allusions in both works to the animals of the district, most of which are mentioned in the following pages. A posthumous edition of the *British Zoology* appeared in 1812, with additional notes by Pennant's son-in-law, Hanmer, and it is this edition that is generally quoted. Amongst his numerous correspondents the most eminent was Gilbert White, whose letters addressed to Thomas Pennant, Esq., form the major portion of the volume that has since become a classic under the name of the *Natural History of Selborne*. As regards Wales, however, his most important lieutenant was the Rev. Hugh Davies, B.A., F.L.S., who was Rector of Beaumaris 1778-1816. A memorial tablet on the chancel wall of Beaumaris Church records that "as a distinguished naturalist his opinion was frequently sought by eminent men in their scientific pursuits, and in 1790 he was elected a member of the Linnean Society. His work on the botany of Anglesey, published in 1813 in Welsh, English, and Latin, is highly esteemed." His zoological contributions relate chiefly to some of the rarer birds and fishes of

Davies,
1740-1821.

- Anglesey—e.g., Glossy Ibis and Trifurcated Hake. Another contemporary of Pennant was Lewis Morris, of Anglesey, who was not only a naturalist, but a poet, philologist, and antiquary. In a letter to his brother Richard 'printed in the *Morris Letters* now in course of publication' he mentions having written copious notes on the natural history of Anglesey, particularly as to the fishes. These were never published, though possibly they may still be in existence in the manuscripts at the British Museum. The fish named "Anglesey Morris" by Pennant was so called after Lewis Morris.
- Morris,
1700-1765.
- A short digression is needed here to mention an English author, the Rev. William Bingley. He was a native of Doncaster, graduate of Cambridge and Fellow of the Linnean Society. Amongst other works from his prolific pen was a *Tour Round North Wales* (1800), the result of his college vacation in 1798; it contains interesting accounts of some of the cliff-breeding birds. Subsequently he made two other expeditions into the district. Another work of Bingley's which enjoyed great popularity was his *Animal Biography*, first published in 1802, and afterwards passing through many editions. During the ensuing fifty years several works appeared, written by Welshmen, and all dealing with the same area—the district lying between Llanrwst and Llandudno. The first of these was a curious little book entitled *Faunula Grystensis*, published in 1830 by John Williams.
- Bingley,
1774-1823.
- John
Williams,
1801-1859.
- It gives a most interesting account of the parish of Llanrwst, with lists of plants, animals, elements, diseases, etc., found therein: altogether a remarkable production, considering that the writer was at the time under thirty. He was



JOHN WILLIAMS.
1801—1859.



C. S. GREGSON.
1817—1899.



JOHN PRICE.
1803—1837.



RICHARD PARRY.
1803—1897.

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born 1st March, 1801, at Llansantffraid-Glan-Conway, and went to school in Liverpool, afterwards studying at Chelsea and the Botanical Gardens at Kew, and qualifying as a medical man at Dublin. From 1832 to 1850 he practised at Corwen, but was bitten with the "Gold Fever," and emigrated to California. Like many others he was unsuccessful, and, returning to England in 1853, took up practice at Wrexham. He died 1st November, 1859, and was buried at Llanfair-Dyffryn-Clwyd. Prior to 1830 he made a remarkable collection of over five thousand flowering-plants, grasses, and mosses, which in 1902 was presented to the University of Bangor by his son, Rev. John Williams, Vicar of Llanwddyn, who kindly supplied the above particulars, as also the drawing from which the portrait herein is copied.

- Robert Williams, 1810-1881. In 1835 was published the *History of Aberconwy*, by Rev. Robert Williams, a native of Conway, and a notable Welsh scholar, best known as the author of a Cornish-English lexicon. It contains an excellent list with notes on the vertebrates of the district, but these appear to have been written not by Williams, but by his friend and tutor John Price, familiarly known in the district as "Old Price," who himself issued about 1874 a local guide-book entitled *Llandudno and How to Enjoy It*. The style of this book is eminently characteristic of the writer. It is full of jocular classical allusions, generally in parentheses, and extremely amusing to read. Besides detailed lists of local birds, etc., it contains numerous natural history notes scattered through the text. Price was born at Pwll-y-

crochan, near Colwyn Bay, 3rd June, 1803, and educated first at Chester and then at Shrewsbury School, under Dr. Butler. After graduating M.A. at Cambridge in 1826, he returned to Shrewsbury as master, afterwards acting as tutor at Cambridge and elsewhere, till he finally settled down at 36, Watergate Street, Chester. At one time he took up zoology at Birkenhead, and from his earliest days evinced a keen interest in Natural History, frequently lecturing on the subject. He spent much time in North Wales, chiefly at Llandudno and Abergele, where his parents resided. He died at Chester, 14th October, 1887. He was also the author of *Old Price's Remains*, and a book on the study of languages.

Parry,
1803-1897.

In 1855 appeared the *Llandudno Visitors' Handbook* by Richard Parry, better known by his bardic name "Gwalchmai." Born at Llanerchymedd, Anglesey, he spent the greater part of his life as a Calvinistic minister at Llandudno, where he took a prominent part in Eisteddfods. He died there in 1897, and was buried at Llanrhos. His guide-book passed through several editions, and eventually came to be known as *Williams' Complete Guide to Llandudno*, though on the cover of the 1864 edition it is called *Llandudno, its History and Natural History*. The later editions contain excellent chapters on the geology, flora, and fauna of the district, each department written by some expert whose name appears at the head of his article. The chapters dealing with the local birds and reptiles are from the pen of Peter Inchbald, of Storthes Hall, Huddersfield, who, however, expresses his indebtedness to C. S. Gregson, of Liverpool, for notes on the

Inchbald,
1816-1896.

reptiles and amphibians. Inchbald was born in 1816 at Adwick Hall, Doncaster, and throughout his life was a keen naturalist, devoting himself specially to entomology, though he had a comprehensive knowledge of other branches of zoology, as well as of British botany. He died 13th June, 1896. He was a Fellow of the Linnean, Zoological, and Entomological Societies.

Gregson,
1817-1899.

Charles Stuart Gregson was born at Lancaster, 29th May, 1817. He lived the greater part of his life in Liverpool. He was a good all-round naturalist, but chiefly devoted himself to ornithology and entomology. His collection of insects numbered over twenty-eight thousand specimens, and included some magnificent series of varieties obtained by rearing *larvæ*. He worked mostly in Lancashire and Cheshire, but also in North Wales. Many of the notes on Llandudno birds, insects, etc., were contributed by Gregson to his friend Inchbald. He had a great fondness for living birds, and for about thirty-five years kept an African Eagle as "watch-dog" at his house. He died in Liverpool, 31st January, 1899.

It is a regrettable fact that the Welsh take very little interest in the animals of their own country. Pennant, Williams, and Price are almost the only exceptions, and since their days all investigators into the zoology of North Wales have been Englishmen; whilst these have confined themselves mainly to the coasts, so that the whole of Montgomeryshire, as well as Snowdonia and certain other inland districts, have remained almost unknown, as regards the fauna, up to the present day. The only naturalist who

- Eyton,
1809-1880. attempted to deal with the entire district was Thomas Campbell Eyton, who published, in the *Annals of Natural History*, 1835-8, a series of papers entitled "An attempt to ascertain the Fauna of Shropshire and North Wales." This is the only paper which gives the mammals and marine fishes, as well as the birds and reptiles of the district, and it is a most valuable contribution to science, although, naturally, very incomplete and containing a few errors of identification. From his references to those places, Eyton seems to have been most familiar with Holyhead and Capel Curig. Curiously enough, he appears not to have been acquainted with Pennant's writings, for he omits from his list most of the rarer species recorded by Pennant. From internal evidence it would seem that another old English naturalist—
- Donovan,
1768-1837. Edward Donovan—was acquainted with North Wales, since he several times refers to Anglesey when dealing with certain species of marine fishes, etc.

Although neither of them have contributed directly to the literature of the subject, it is interesting to note that both Charles Darwin and Charles Kingsley visited North Wales, the latter, indeed, being a frequent visitor to Snowdonia and the north coast. It is said that it was to the proximity of North Wales rather than to the interest of the Cheshire country that the Chester Natural Science Society owed its origin. It was instituted by Kingsley to encourage the study of natural history in the district, and rapidly grew to be one of the largest societies of the kind in Britain. Many of its early excursions were led by Kingsley himself, and were held in various parts of



THOMAS CAMPBELL EYTON. 1809—1880.

Photographed by BARTLETT.

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North Wales, accessible from Chester. There are many still living who remember those happy days, and the peculiar charm of Kingsley's personality by which he compelled attention to all the wonderful things which he himself saw in Nature. Dr. W. H. Dobie, speaking of the Rock-Pipit, says that it is "abundant on the Great Orme's Head, where, as a boy, his attention was first drawn to it by Canon Kingsley during a well-remembered walk on July 21st, 1871."

Darwin,
1809-1882.

Darwin's visits to North Wales are thus alluded to in his autobiography: "During the summer of 1826 I took a long walking tour with two friends, with knapsacks on our backs, through North Wales. We walked thirty miles most days, including one day the ascent of Snowdon. I also went with my sister a riding tour in North Wales, a servant with saddlebags carrying our clothes. In the summer of 1842 I was stronger than I had been for some time, and took a little tour by myself in North Wales for the sake of observing the old glaciers which formerly filled all the smaller valleys. I published a short account of what I saw in the *Philosophic Magazine*. This excursion interested me greatly, and it was the last time I was ever strong enough to climb mountains or to take long walks such as are necessary for geological work." He was enthusiastic in his admiration for the country, as is evident from his writing to his cousin, the Rev. W. D. Fox, on 5th September, 1843: "Get up your steam, if this weather lasts, and have a ramble in Wales; its glorious scenery must do everyone's heart and body good." It was probably on the first of these tours that the following episode, related

by "Old Price" (*Guide*, p. 133), occurred. "The writer, in company with Charles Darwin, caught a Viper on the Warren (Llandudno) about 1824, favoured by Wellington boots and very strong gardening gloves. Holding him short by the neck, we let him bite at the glove and emit a drop of clear fluid along the fang, which sank instantly into the leather. When this had been done about five times no more poison was left, and we killed, but did not eat him—a fact never satisfactorily explained."

Byerley,
1814-1897.

In 1856 appeared Isaac Byerley's *Fauna of Liverpool*, which gives brief notes on the Invertebrates as well as the Vertebrates of that district. It only affects North Wales in that it includes numerous references to species occurring on the Dee Estuary, particularly cetaceans and fishes. This same area is touched upon by J. F. Brockholes' *Birds of Wirral*, published in 1873, and re-published with numerous additions (embracing a much larger area) by Dr. W. H. Dobie in 1893.* Byerley was born in the Isle of Wight, and early removed to Liverpool where he studied medicine, afterwards qualifying at Dublin. In 1886 he retired to devote himself entirely to natural history pursuits and gardening. He became a Fellow of the Linnean Society in 1854, and died on 20th June, 1897.

Brockholes,
1827-1875.

James Fitzherbert Brockholes was born in 1827, and was educated at Ushun College, Durham. He lived for many years at Birkenhead, and was a member of the Liverpool Literary and Philosophical Society, before whom he read a paper in 1860 on the Birds of the district. Besides ornithology, he also

* Quoted throughout this volume as "Dobie's list."

studied entomology, and wrote an important paper on the Lepidoptera of the Hundred of Wirral, Cheshire. On his marriage in 1866 he went to live at Neston, and resided there till 1874, when he succeeded to an uncle's estate at Claughton and removed thither; he died there in January, 1875.

Moses,
1812-1851.

The present work includes numerous valuable notes contributed by two deceased naturalists, who never published their observations—Joseph William Moses and Edwin Gosling. The first of these was born at Sligo and practised as a medical man at Rhyland and St. Asaph during the early forties; he kept a diary in which he recorded notes on the various birds and beasts which he saw or obtained in the neighbourhood. In some instances, owing to lack of books, he was unable to identify specimens, but owing to his careful record of details, there is usually no difficulty in recognizing them. A notable example is the Richard's Pipit, details of which appear in the present volume under the head of that species. He was a clever taxidermist and a keen sportsman and naturalist. He lived at St. Asaph from 1841 up to the time of his death in 1851.

Gosling,
1840-1902.

Edwin Gosling was born at Sandford in the parish of Sonning, Berks. Evincing always a strong love of outdoor life, he spent much of his time in hunting, shooting and fishing. His first wife was a daughter of Hugh Jones, of Bodfeurig, Aberffraw, Anglesey, and to this circumstance is due his long connection with that district, where he spent some thirty seasons, chiefly occupied in fishing all round the coast, thereby acquiring an intimate knowledge of the birds, beasts, and especially the marine fishes

of the district. His notes were freely placed at the disposal of the Author and have been of great service, particularly in supplementing the sparse information available with regard to the local fishes. His later years were passed at Dormansland, East Grinstead, where he died after a painful illness, 11th October, 1902.

Stivens,
1816-1905.

John Charles Stivens, L.R.C.S. London, was born at Clifton, but lived the greater part of his long life in Chester, where he practised as a dental surgeon. He was a keen sportsman and a notable shot, having held 73 consecutive game licenses, the first taken out in his sixteenth year, and he retained his powers to the last. In his ninetieth year he was shooting driven partridges with his son in Hampshire, and shooting well, without glasses. He began collecting birds when only thirteen years old, and eventually acquired a very extensive series of cases. All his specimens were stuffed and mounted by his own hands, and in most instances obtained by his own gun, though some were presented to him by friends. Amongst them are many rare local species which are mentioned in the present volume, with all available details as to date and locality. Unfortunately, however, Mr. Stivens kept no records of such details, and lack of these detracts greatly from the value of the collection. At his death a large number of the specimens were presented to the Chester Museum, whilst others are now in the possession of his son, Dr. Lyne Stivens, of London.

Living
Zoologists.

For the contributions of living writers to the Zoology of North Wales, the reader is referred to the Bibliography of the subject, pp. XLIII-LI.



J. W. MOSES.
1812—1851.



J. F. BROCKHOLES.
1827—1875.



EDWIN GOSLING.
1840—1902.

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THE PHYSICAL FEATURES OF NORTH WALES.

THE influence of the physical features of a country upon its fauna is well shown in the case of North Wales. Within its area may be found a great variety of surface, but its MOUNTAINS are the most important.

Considered as a whole it may be said of North Wales (excluding Anglesey) that along the eastern border it is low and flat, while a little further west the level rises gradually to the Berwyn range and the moors of Denbighshire; still further west it rises higher and higher to that rugged mass of mountains which stretches almost uninterruptedly from the Menai Straits to the Dovey Estuary, and culminates in the peak of Snowdon. Beyond this it falls rapidly to the western shores of the country.

The importance of this mountain barrier in limiting the distribution of species can hardly be over-estimated. A perusal of the following pages will show that in a very large number of instances species are confined to the eastern side of this barrier, which may be fairly accurately represented on the map by a line drawn between Conway and Machynlleth. The truth of this is particularly evident in regard to many woodland birds and freshwater fishes. So solid is this barrier that the main roads which traverse the district from east to west (naturally kept at as low a level as possible) all rise at their highest point to an altitude of over 1300 feet. True, there are numerous valleys amongst the mountains, but they are not extensive, nor do any of them penetrate to the opposite side of the range.

If the contour line, 1000 feet above sea level, be taken as a criterion—all below that line being considered as lowland, and all above as mountain—it will be seen from the table appended that Anglesey and Flint are lowland counties; Merioneth is almost entirely mountain country; Carnarvon, although containing the highest peaks, is more than two-thirds lowland; whilst of the other two counties, Denbigh and Montgomery, about three-fifths are mountain land.

TABLE OF AREAS COMPILED FROM ORDNANCE DATA.

	Under 1000 Feet.	Over 1000 Feet.	Highest Point.	Water.	Salt Marsh and Foreshore.	Waste Land.	Coast Line.
	Sq.Miles.	Sq.Miles.	Feet.	Sq.Miles.	Sq.Miles.	Sq.Miles.	Miles.
Anglesey ...	275	0	720	1.5	16	9	105
Carnarvon ...	402	161	3561	5.8	21.8	46	117
Denbigh ...	428	235	2194	3.0	5.6	74	11
Flint... ..	247	9	1820	1.0	27.1	7	24
Merioneth ...	351	317	2970	6.2	12.2	148	29
Montgomery	506	291	2713	7.9	0	171	0

Of the area here included as mountain a considerable portion takes the form of MOORLANDS. These are situated principally in Denbighshire, but overlap the adjoining parts of Merioneth and Carnarvon, whilst the north and west borders of Montgomeryshire consist largely of grouse-moors. It is only on these last that the Blackcock appears to be really indigenous. Next to the Grouse the most characteristic birds of the Welsh moors are the Curlew and Ring-Ouzel; the Cuckoo and Meadow-Pipit are very numerous, the Wheatear common; the Golden Plover breeds in many

places, the Dunlin but rarely, whilst the Dotterel occurs irregularly and only as a passing migrant. The Merlin still breeds in fair numbers on the moors, but the Harriers are almost extinct locally.

Many of the mountains of Carnarvon and Merioneth are extremely rugged and, in places, precipitous. These afford shelter to scattered pairs of Peregrine Falcons and Ravens, both species breeding in precipices inland as well as by the sea. The Golden Eagle used to nest on Snowdon, but so long ago that there is little better evidence than tradition in proof of the fact. The Common Buzzard still breeds in fair numbers amongst the mountains, placing its nest generally on some inland cliff, though sometimes in a tree. The mountains, too, are the last stronghold of the Marten, as they formerly were of the Wild Cat; the latter is quite extinct now; the former soon will be unless steps be taken to preserve it.

WOODLANDS are not nearly so extensive as in bygone times. There is ample documentary evidence to show that formerly almost the whole of North Wales was one continuous forest, especially the mountain-country, including even Snowdon itself. When it is remembered also that there were in early times no roads worthy of the name (except those made by the Romans) it is evident that the district must have afforded sanctuary to many animals, such as the Wolf and Roe-buck, when driven from the more civilized parts on the eastern border. Indeed, the impenetrable forests of North Wales had a direct influence upon the political history of the country since the natives alone knew them intimately, whilst an invading army was always at a disadvantage. It was the recognition of this fact that eventually led to the disafforesting of Wales—a process which, owing to its extent, took a long time to accomplish. Sir John Wynne of Gwydir tells us:—"Now you are to understand that in those dayes the countrey of Nanteonway was not only wooded, but also all Carnarvon, Merioneth and Denbighshires seemed to be but

one continued forrest, having few inhabitants, though of all others Nantconway had the fewest, being the worst then and the seat of the warres." John Williams adds (*Farmula Grustensis*, p. 26): "It appears that formerly all the mountains and vales were covered with trees; that Snowdonia was one continued forest from Snowdon to Conway (of this we have indisputable authorities), and that this was the richest Deer-forest in Wales." He says further (p. 30): "As the inhabitants became multiplied and civilized they saw the necessity of cultivating the land; a *Hu Gadarn* came amongst them and turned the forests into arable plains, but on these hills the plough is seldom seen. It is probable that our mountains began to be divested of trees about the year 1290, and from that time till the end of the 16th century this desolation continued."

The most important RIVER-VALLEYS in North Wales are those of the Severn and the Dee. Both of these run mainly from west to east until they approach the English border, when the former bends round beneath the Breidden to the south, whilst the latter turns northward to Chester. The two valleys differ from one another widely in character, for that of the Dee is narrow and bounded on each flank by steep hillsides, whilst only at Corwen does the river receive a tributary of any size. On the other hand the Severn Valley is for the most part wide and open, and on either side it has many subsidiary valleys with their contained streams opening into it. Consequently the Severn Valley is easily accessible on all sides, though the upper Dee Valley can only be entered easily at one end or the other (Bala or Llangollen) or reached by crossing the mountains which bound it on both sides. Other River-Valleys of less importance are those of the Clwyd and Conway on the north, and the Glaslyn, Mawddach, Dysynni, and Dovey on the west.

ESTUARIES derive their chief faunal importance from being the resorts of many water-fowl, cetaceans, and fishes. There

are two, those of the Dee and Dovey, which figure prominently in the present work, not only on account of their size, but because they form the natural boundaries to north and south of the faunal area of North Wales. The Dee Estuary is by far the larger, and its wide expanses of salt-marsh, sand, and mudbanks, are the resort of countless waterfowl, especially in winter. The greater part of its shores are in Flintshire, but on the north it is bounded by the Wirral district of Cheshire. In this work, however, the whole area of the estuary up to the north shore is treated as belonging to North Wales.* Similarly the Dovey Estuary is bounded on the south by Cardiganshire, but the whole area down to the south shore is herein considered as part of North Wales. This course is adopted because it is impossible to recognize as a boundary an arbitrary line drawn along the middle of an expanse of water, mud, or sand. The Dovey Estuary, although so much smaller than the Dee, appears to have an even richer avifauna so far as variety is concerned. The reason for this is probably because it lies on one of the great migration routes whilst the Dee Estuary does not. For the same reason the other western estuaries—Traeth mawr and Traeth fach, Mawddach, and Dysynni—all have a varied and interesting avifauna, those on the north coast being distinctly less favoured in this respect.

In extent of COAST LINE Carnarvon and Anglesey far exceed the other counties of North Wales. These two also are the only counties which possess sea-cliffs; true, Merioneth has fine precipices in places, but these, except in the neighbourhood of Llwyngwrl, stand a little way back from the sea, the actual coast being sandy. The coasts of Denbigh and Flint are flat, with extensive foreshores consisting mainly of sand or mud. Every variety of shore is to be found in North Wales. Ringed Plovers and Oyster-Catchers are common

* In the county-notes throughout the book, Hoylake, West Kirby, Hilbre Island, and Burton, are placed under the head of "Denbigh and Flint." It is important, however, to remember that these localities on the Dee Estuary are politically in *Cheshire*.

on all the flat parts which in the winter months are also resorted to by many other species of *Limicolæ*. Where there are sandhills the Sheld-duck is generally to be found, whilst on rock-bound coasts the Rock-Pipit is numerous, and the cliffs are frequented by the Raven, Crow, Peregrine Falcon, Kestrel, and many kinds of sea-fowl. In places where the beach is sandy with an admixture of shingle and boulders the Purple Sandpiper may be occasionally seen in spring, whilst here and there beds of shingle are occupied during the breeding season by colonies of Lesser Terns.

The principal ISLANDS of North Wales are situated off the Carnarvon and Anglesey coasts. There are none off Merioneth nor on the north coast to the east of the Orme's Head, except Hilbre Island, at the mouth of the Dee Estuary. The most interesting are Bardsey (where many Carnarvonshire birds, such as the Manx Shearwater, breed); St. Tudwal's (the home of thousands of Puffins and other sea-fowl); the Skerries and Anglesey Stacks (inhabited by Common, Arctic, and Roseate Terns); and Puffin Island (where the Kittiwake, Lesser Black-backed and Herring-Gulls breed). The fauna of the last-mentioned little island has received quite an extraordinary amount of attention, owing to the fact that a biological station was opened there in 1886 by the Liverpool Marine Biological Committee, and maintained for several years, when that body moved its station to Port Erin, transferring its old quarters on Puffin Island to Bangor University. The annual reports published by both these bodies contain most interesting and copious details of the Archæology, Botany, and Zoology of the island. The birds of Bardsey have been described by Mr. O. V. Aplin in the *Zoologist* (1902), whilst a good general account of the island by Mr. A. E. Johnson appeared in the *Field Naturalist's Quarterly* (1904). Several of the rocky islets off Llyn are frequented by Seals.

LAKES are numerous in North Wales, especially in the mountain-country, but they are mostly of small size, few

reaching a mile in length. The largest natural lake is Lleyn Tegid, commonly called Bala Lake (about four miles in length), but this is excelled by the artificial reservoir (Lake Vyrnwy) of the Liverpool Waterworks at Llanwddyn. Bala Lake is noted as the home of the Gwyniad—a fish which in appearance resembles the Herring though it actually belongs to the salmon-family. Welsh Char are found in the lakes at Llanberis and in a few other sheets of water amongst the mountains. Llyn Mynyddlod, Merioneth, is notable for its large gullery and as the only place in North Wales where the Wigeon has been known to breed. The lakes of Anglesey, situated mainly in the west, are for the most part weedy and comparatively shallow. They present a marked contrast to the mountain-tarns of Carnarvon and Merioneth, which are generally deep and void of vegetation. Many of these last occupy hollows scooped out by former glaciers. The Anglesey lakes have a far richer fauna than the others, being resorted to as breeding quarters by Coots, Grebes, Shovelers, Teal, and diving-ducks, whilst the boggy shores are even yet visited occasionally by the Bittern and are frequented by other marsh-loving birds. The mountain-tarns are for the most part remarkable for the paucity of their fauna; almost all contain Trout but few have any other fish; in one or two of the more secluded a pair of Greater Black-backed Gulls nest on some rocky islet, whilst in winter Mergansers and other wandering *Anatideæ* pay them flying visits. There is one bird that equally affects the shores of Welsh lakes, whether upland or lowland—the Common Sandpiper.

Three districts of North Wales possess features so peculiarly their own that they require to be dealt with separately: 1. Anglesey. 2. Lleyn. 3. The Menai Straits.

ANGLESEY,* although separated from the mainland only by a narrow channel, presents a remarkable contrast to its neighbour Carnarvonshire: on the one hand the towering

* There are two ways of spelling this name—Anglesey or Anglesea. Throughout this work I adopt the first. The termination "Ey" is A.S. for Isle.

heights of Snowdonia—on the other a plain with scarce a hill to break the monotony. Yet it is not only the flatness of Anglesey that strikes the observer, but its bareness: with the exception of a belt of woodlands stretching from Beaumaris to Menai Bridge there are no woods of any size in the island. The rivers, too, are small—little more than brooks. On the other hand there are many pools, big and little, with extensive bogs; these last, indeed, being quite a feature of the island. The coasts, however, are bold in outline compared with the general tameness of the country inland, there being many places where the cliffs, albeit of no great height, are so rugged and steep as almost to deserve the epithet “grand.” At the South Stack the precipices are composed of schist, but Penmon Point and Puffin Island are of limestone.* The Birds of Anglesey have been described by Messrs. Coward & Oldham in a series of papers in the *Zoologist* (1902 *et seq.*)

LLEYN is the name given to the south-west part of Carnarvonshire from Pwllheli to Bardsey Island. It resembles Anglesey only in its bareness—there are no woods of any size, except on the Rhiw Hills and round Llanbedrog. It differs from Anglesey in being more or less hilly throughout, and is almost devoid of pools, rivers, or marshes. The coast round the south-west extremity is rocky and precipitous, and the district is interesting as the last stronghold of the Chough in North Wales, and as the breeding resort of the Manx Shearwater, while the cliffs are the home of many kinds of sea-fowl. A detailed account of Llein and its birds is given by Mr. O. V. Aplin in a series of papers in the *Zoologist* (1901 *et seq.*)

The MENAI STRAITS have characteristics peculiar to themselves, particularly the tides, which run in and out at both ends and meet near Menai Bridge. They run at the rate of five to nine miles an hour, the times of high tide and low tide

* A belt of limestone stretches right across Wales from here through the Orme's Head and Denbighshire to the neighbourhood of Mold. Cefn caves are in the limestone.

being quite different within and without the Straits. At the narrowest place the Straits are less than one-third of a mile across (the western entrance much narrower than this) whilst for several miles to the west of Bangor they are so narrow that they resemble rather a river than an arm of the sea; indeed, local people commonly speak of the Straits as "The River." One result of this shutting in of the water is that any sea-creatures that are carried in on the flowing tide travel several miles up; they cannot get out till the tide ebbs, so are compelled to stay in for some hours and are consequently more likely to be seen than if they were in the open sea. A great variety of fishes has been taken in the Menai Straits, and several species of cetaceans. The shores and water are favourite feeding resorts of sea-birds and waders of many kinds, whilst amongst the rarer wanderers taken there are the Hooded Merganser, Glossy Ibis, and Yellow-billed Cuckoo.

On an island near the Suspension Bridge is one of the few remaining weirs, or fish-traps, which figure prominently in the section of this book devoted to Fishes. This one is known as the Gored Goch (= Red Weir) and every year entraps large numbers of fishes of every description and size. There is another weir at the mouth of the River Ogwen, and a third at Rhos, near Colwyn Bay, the latter worked by an ancient grant from King Charles II. The larger fish entangled used formerly to be "retrieved" by a dog trained to the work.

The GEOGRAPHICAL POSITION of North Wales—even more than any of the physical features—has an important bearing upon its Fauna. East Anglia receives a regular influx of migrant birds from the Continent, including species of rare occurrence elsewhere in Britain. As a consequence the avifauna of such counties as Norfolk and Yorkshire* is richer than that of any other part of Britain. Few of these rare wanderers from the Continent reach Wales or the western counties of England; fewer still travel as far west

* Nelson, *Birds of Yorkshire*, XXXIX.

as Ireland. In the *Zoologist*, 1903, I published a paper on the *Birds of North Wales and the opposite Coast of Ireland*, in which it was shown that many species, such as the Tree Pipit, common in Wales, are unknown in Ireland. On the other hand, the south-east of Ireland receives a stream of migrants (including several rare continental species), few of which ever reach Wales. The laws which govern the migration of fishes and cetaceans are entirely different from those which control birds, and a comparison of the Fish-fauna of the eastern and western seas shows that the Welsh waters are the richer in species.*

* Cf. p. 430.

BIRD-MIGRATION ROUTES IN NORTH WALES.

THE subject of the present chapter is one of great interest, but at the same time considerable difficulty. In the first place, so few observers have directed their attention to the matter that reliable data are scanty and absolute conclusions impossible. In the second place, different birds are affected in different ways, according to their powers of flight and the conditions under which they migrate. Consequently, conclusions arrived at regarding one species may not at all apply to another species.

Further, in considering this question, Wales cannot be taken by itself—it is an integral part of Great Britain, and shares in most of the migrational phenomena which affect the whole country.

In the northern hemisphere there are two great annual migrations, northwards in spring and southwards in autumn, affecting in some degree almost the entire bird-population. For the present we will confine our attention to the first of these—the spring migration.

According to Mr. W. Eagle Clarke's *Digest** of the observations at lighthouses from 1880 to 1887, the great majority of the immigrants in March and April reach this country along the south-west coast of England and Ireland. Some of these earliest arrivals pass on northward up the west coast, others pass inland. Taken as a whole, however, the vast majority of our birds of passage (including most of the later arrivals) pass

* *Brit. Assoc. Report*, 1896.

up the east coast. According to the conclusions of the B.O.C. Migration Committee (based on investigations in 1905-6) the points of arrival differ widely in various species.* Some—such as the Wheatear, Chiffchaff, and Willow-Wren—appear to arrive mainly in the western half of our southern sea-board; others—such as the Whitethroat and Cuckoo—mainly in the eastern half. Their subsequent movements are still involved in some obscurity, but it appears certain that very few proceed due north. The earlier arrivals on the south coast include birds which are passing on to breeding domiciles further north—they are not on their way to inland nesting haunts in England or Wales. These birds of passage, then, pass on up either the east or west coast, most of the first arrivals choosing the west, later arrivals the east coast. These last, of course, do not affect North Wales in any way.

The problem to be solved (so far as the present chapter is concerned) is this: By what route or routes do the migrant birds arriving on the south coast of England reach North Wales? The data available are hardly sufficient to furnish a complete answer, but the following seem to be some of the routes followed:—

1. The West Coast route.
2. The Wye Valley route.
3. The Severn Valley route.

Of these the first is the most important, and it is practically the main route through Britain† used habitually by the White Wagtail on its way northwards in spring. Of this ample evidence is afforded by Mr. Eagle Clarke's *Summary*‡ and by the details given under the species in this volume.

From the observations of naturalists at various points in

* These are not general conclusions, but merely statements of what occurred in each year of the enquiry.

† Excluding Ireland.

‡ *Brit. Assoc. Report*, 1900.

the west of Wales it has been proved beyond doubt that a constant stream of migrants, including Wagtails, Pipits, and many of the Warblers and Waders, passes along this coast northwards throughout the spring.

The birds pass right along from Aberystwyth, across the Dovey Estuary, and past Barmouth and Harlech to Portmadoc, following throughout the coast-line which here runs due north. So far progress is easy, but at this point it is barred by the mass of Snowdonia. If the birds continue to follow the coast-line it veers first to the west and then to the south—a direction precisely opposite to the one they wish to travel. To the right lies the vale of Ffestiniog, but it quickly comes to an end amongst the mountains. Straight in front is the estuary of the Glaslyn, wide and flat at first but gradually narrowing to the Pass of Aberglaslyn, then opening out again at Beddgelert.

According to the observations of Mr. G. H. Caton Haigh, made on the spot, through a series of some thirty years, all the birds follow the Glaslyn at first, but leave it about the bend called Llyn-afon-gasal, and follow the Merioneth side of the Traeth Mawr, leaving Ynysfor on the left, and passing up the valley between Mynydd Nantmor and Arddu. This brings them out on to the great flat above Dolwyddelan, after crossing which they strike into the Conway Valley, following it northwards to the coast near Llandudno. Mr. Caton Haigh adds that even Swallows and Swifts frequently use this route, travelling by day, and often quite low down. The examples of *Motacilla flava* obtained on the Traeth Mawr were doubtless borne thither on the stream of migrants. Parties of migrants have been repeatedly seen by Mr. W. B. Halhed passing down the valley at Llanrwst, whilst he has also noted certain solitary ash-trees at the edge of the moor above Dolwyddelan literally covered with tired birds (mainly Chiffchaffs on one occasion) that had evidently just arrived from over the moor.

With the movements of the birds after reaching Llandudno

we are not immediately concerned. Probably some take up summer quarters in the district, though the majority pass on to Lancashire and more remote districts.

Besides the route along the west coast just described there is another western route which is taken by a large number of birds on their Spring passage northwards. This diverges from the south-west coast and strikes across the sea to Bardsey Island and the coast of Lleyn, thence northwards along the west coast of Carnarvon and Anglesey, probably to the Isle of Man and North Britain. It is the birds following this route which are recorded at the Carnarvon Bay Lightship, and the lighthouses at St. Tudwal's, Bardsey, South Stack, and the Skerries. Many instances will be found in the following pages under the heads of the various species.

The second route, up the Wye Valley (roughly speaking, parallel with the coast), is used by many of the same species of birds. The individuals that follow the Wye, when they reach the upper parts of that river, find themselves in a bleak and hilly country. Many are deterred by this barrier and proceed no further, but most of those that go on, instead of reaching Merioneth, are led off into the southern part of Montgomeryshire and take up their summer quarters there.

I believe that the Yellow Wagtail favours this route as it occurs very early every year in the Wye Valley, and is not uncommon in Montgomeryshire, but is rarely met with in the west except as a passing migrant. Another bird that occurs exceptionally early in the Wye Valley is the Common Sandpiper, whilst the Redstart and Pied Flycatcher undoubtedly use this route largely. The Wryneck ascends the Wye above Builth, but rarely passes the hilly barrier. The Wye itself lies outside our district so would not be mentioned but for the fact that it forms one of the entrances by which birds pass into North Wales.

That the Severn Valley is largely used as a migration route we have ample proof in Shropshire. Parties of migrants are constantly noted from day to day during the spring, the

species occurring most regularly being the Common Sandpiper, Wheatear, and several kinds of Wagtails and Warblers. Now and then wanderers such as the Dunlin pass by, whilst Gulls are of frequent occurrence. In May, 1842, the whole course of the Severn for many miles was thronged by vast numbers of Arctic Terns. These were evidently migrating northwards and by some accident had presumably been driven out of their normal course up the west coast.

On 18th March, 1904, there occurred what was described in the newspapers as "a great wreckage of birds at Pwllheli." The accounts in the Press were greatly exaggerated, but it seems that on this occasion some hundreds of birds were attracted on a foggy night by the brilliant electric light at the stone-quarry on the Gimlet rock, and many fell into the sea and were drowned, their dead bodies being washed up next day along the shore. Most of these were Redwings, and they were no doubt on their return migration northwards. Under normal atmospheric conditions they would probably have passed along one of the western routes, either to the west of Lleyn or up the Glaslyn Estuary, as described above.

In the subjoined table may be seen at a glance the dates on which four of the best-known migrants were observed at four localities in North Wales during five consecutive years. Shropshire is added for the purpose of comparison.

It will be seen that the Wheatear begins to pass up the west coast every year about the middle of March, though it does not appear at any inland station till some two or three weeks later. At Llandudno, however, it is seen simultaneously with its appearance on the west coast, and there is other evidence to show that it travels mainly by the same route as the White Wagtail, *i.e.*, *via* Barmouth, the Glaslyn Estuary, Dolwyddelan, and down the Conway Valley to the north coast.

Turning now to the Chiffchaff, the dates seem to indicate that the bird travels mainly by the same route as the Wheatear, but that it also makes use of the Severn Valley on

migration, for it generally appears in Shropshire sooner than at the inland stations of North Wales.

The Swallow appears earlier on the west coast than elsewhere ; there is no indication that it uses the Severn Valley.

		Merioneth. W. Coast. L. W. Roberts.	Dee Estuary. S. G. Cummings.	Bala. T. Ruddy.	Welshpool. Mont. G. D. Harrison.	Shropshire. H. E. Forrest.
Wheatear,	1900	Mar. 19	Apr. 29	—	—	Apr. 17
	1901	Mar. 20	Apr. 6	Apr. 4	(Average Apr. 14)	Apr. 8
	1902	Mar. 18	Mar. 31	(Average Apr. 9)	Apr. 15	Mar. 29
	1903	Mar. 18	—	—	—	Mar. 31
	L'dudno, Mar. 19,	Mar. 18	Mar. 27	Apr. 6	Apr. 13	Apr. 22
	Chiffchaff,	1900	Apr. 1	Apr. 13	Apr. 21	Mar. 31
	1901	Mar. 30	Apr. 10	—	Apr. 28	Apr. 14
	1902	Apr. 2	Mar. 27	{ Average date Apr 14, but not seen in these years. }	Apr. 14	Mar. 29
	1903	Apr. 3	Mar. 27		Mar. 30	Mar. 24
	1904	None.	Apr. 4		Apr. 22	Apr. 8
Swallow,	1900	Mar. 30	Apr. 22	Apr. 16	Apr. 19	Apr. 17
	1901	Apr. 1	Apr. 15	Apr. 19	Apr. 14	Apr. 9
	1902	Apr. 6	Apr. 14	Apr. 13	Apr. 5	Apr. 12
	1903	Apr. 1	Apr. 22	Apr. 15	Apr. 11	Apr. 11
	1904	Apr. 6	Apr. 4	Apr. 7	Apr. 11	Apr. 7
Cuckoo,	1900	Apr. 24	Apr. 23	Apr. 22	Apr. 23	Apr. 20
	1901	May 4	Apr. 27	Apr. 21	Apr. 22	Apr. 19
	1902	May 2	Apr. 25	—	Apr. 22	Apr. 16
	1903	May 4	Apr. 30	Apr. 22	Apr. 23	Apr. 18
	1904	Apr. 27	Apr. 23	Apr. 22	Apr. 30	Apr. 14

The evidence regarding the Cuckoo is not very conclusive, but seems to indicate that it travels overland from the south-east.

According to the B.O.C. Migration Reports for the years 1905 and 1906, the White Wagtail, Wheatear, Chiffchaff, and

Swallow all arrived first and chiefly on the western half of the south coast, but the Cuckoo on the eastern half.

It is fairly certain that the west coast route is used mainly by birds of passage on their way to breeding haunts further north, but the two other routes (Severn and Wye Valleys) by birds resorting to inland haunts in North Wales and the border counties.

It is also evident that, speaking generally, most birds avoid, as far as possible, crossing the great mountain mass of Snowdonia, by passing to one side. Similarly they avoid crossing the Berwyn chain which runs east and west from Bala to south Cheshire, and the great plateau formed by the moors of Denbighshire. There is some evidence that the migrant warblers found in the Upper Dee Valley reach the district by travelling up the river from the eastern end of the valley, *i.e.*, the neighbourhood of Llangollen; also that those which take up their quarters in the north of Flintshire reach there by travelling from the south-east *vid* Chester and the Dee Estuary—not by travelling northwards over the Berwyns and Denbighshire moors.

So far we have dealt only with the northward or spring migration. There still remains to be considered the southward or autumn movement.

The first indication of the emigratory movement is generally the appearance on our shores of species which do not reside there usually—little parties or families of such birds as the Wheatear, Meadow-Pipit, and various Wagtails. As soon as the breeding season is over nearly all the birds which have spent the summer on the uplands—Curlews, Peewits, Blackbirds, Mistle-Thrushes, etc.—move down to lower and warmer regions, especially to the sea-board.

“In the autumn the birds, when they appear on our shores, have accomplished *the* great business of the year—procreation. Food is still abundant in their favourite nesting haunts, and hence there is no particular hurry to move southwards. Thus many species tarry on our coasts or in their

vicinity, some for a considerable period. Their numbers are, of course, incomparably greater than during the northward journey, as they are swelled by the numerous young birds, now a few weeks old.”* A little later on the southward movement commences in earnest and reaches its height in October, when immense numbers of birds arrive from the Continent on our east coast, continuing southwards, and, with our own native birds, quitting this country at various points along the south shore.

This same southward movement brings to our shores those species of birds which have their breeding quarters further north, such as the Redwing, Fieldfare, and many kinds of waterfowl and waders. The *British Association Reports* record instances innumerable of great “rushes” of immigrant birds arriving throughout September and October, mainly on the east coast. These rushes coincide with the setting in of cold weather at the place of departure.

Despite the fact that the birds going south in autumn are far more numerous than those which go north in spring, the numbers seen on the west coast of Wales are comparatively small.

Those great “rushes” of birds which are so remarkable a feature of the movement on the east coast, are seldom observed on the Welsh sea-board, because the birds do not *strike* the west coast on arrival—they only find their way there afterwards. As stated below, the rushes which do occur on the west coast are those of cold-weather emigrants, and these surpass in magnitude any seen on the east coast.

The White Wagtail does not use the west coast route on the return journey in autumn, which is strange because it is quite constant then along the western coast and isles of Scotland.

Speaking generally, the species which travel southwards by way of the west coast of Wales are different from those which use this route on their northward journey

* W. Eagle Clarke, *British Association Report*, 1896, 11.

in spring. Still, there is evidence that this is an important highway for birds in autumn as well as spring. The species most often noted are Redwings, Fieldfares, and Skylarks, the latter often in very large numbers late in the season, and sometimes with them a few Woodlarks. Many of the *Limicolæ* also appear on the west coast at this season, in numbers.

Turning now to the north coast, we find that it is affected more by the autumn than by the spring movements of birds. During September and October the Dee Estuary is much frequented by immigrant birds, especially Larks and Pipits, which are noted as travelling more by day than by night.

These birds are generally moving southwards, though it is uncertain what route they follow after reaching the Flintshire coast. Amongst other birds that arrive on the north coast of Wales by this same route are the Redwing, Snow-Bunting, Siskin, Pink-footed Goose, and other winter visitors, but apparently few of the departing summer visitants come over the Dee from further north.

Gulls are not usually regarded as migrants, but every year a well-marked movement southward takes place on the approach of winter, especially when the first cold spell sets in. Apparently this causes a shortage of food for such shore-feeding species as the Herring-Gull. Quitting the Dee Estuary, the Gulls wing their way across the flat parts of Flint and Cheshire into North Shropshire. Passing over the Ellesmere Mere district they strike into the Severn Valley north of Shrewsbury and thence follow the river down to the Bristol Channel. The Gulls generally fly in parties of from ten to forty, and travel straight on, rarely alighting on the way, unless the weather be rough, when they sometimes settle on the surface or bank of some large mere for an hour or two to rest. The species using this route are the Herring-Gull, Lesser Black-backed and Black-headed Gulls; the last-named sometimes appear in hundreds, and, unlike the others, will occasionally alight to feed on damp meadows, or where

ground has just been laid bare by receding flood-water. A good many Gulls are observed returning northwards up the Severn Valley in spring, but nothing like the numbers that go south in autumn. Occasionally small parties have been seen going northwards right over the Berwyns and the Denbighshire moors, but this is not surprising in birds of powerful flight like the Gulls.

As for the smaller warblers, their disappearance in autumn is rarely noted, so that nothing is known as to the routes they take when quitting North Wales; they probably follow the main river valleys inland, and travel southwards along the coast in the west, but so few at a time that they are not noticed. Besides the main emigratory movements just described there are others of a local character which occur from time to time, mainly on the west coast. These are due entirely to local causes, such as gales or severe frosts, and occur mostly in the winter months—not at the ordinary periods of migration.

A hard frost inland, if it continues for any lengthened period, cuts off the food supplies of such birds as the Peewit and Starling, causing them to quit their inland quarters and migrate in a body to the west. Immense flocks of Peewits and Starlings are sometimes seen along the Merioneth coast, as well as passing the light-stations in the west. In long-continued frosts these movements assume huge proportions, the birds evidently resorting to the coasts not only from the upland districts but from regions far inland—possibly even from the east and north-east of England. At such times the movement westwards does not stop at the Welsh coast, but is continued right across St. George's Channel to Ireland. Sometimes, but not always, a return movement is seen on the advent of more genial weather.

To sum up the phenomena of bird-migration in North Wales, the following seem to be the most prominent:—

In the spring the earliest arrivals migrate northwards,

chiefly along the west coast,* but there are subsidiary routes up the Severn and Wye valleys, whilst some species arrive overland from the south-east of England.

In the autumn fewer birds travel southwards *viâ* Wales than *viâ* the eastern counties of England. Of those which reach Wales some travel southwards down the west coast, whilst others arrive on the north coast and along the Dee Estuary, probably going on to the south overland. In winter considerable emigratory movements take place to the west coast and thence to Ireland.

* N.B.—The *earliest arrivals* take this course, but the *main body*, arriving later, mostly travel up the east coast of England.

NOTES ON THE WELSH NAMES.

The Welsh names of species are dealt with very fully in this book, but the author's aim has been to include only those which are actually used by the people of the district—"book" names are excluded.

So far as is known, no previous writer has attempted to trace the etymology and meaning of these names, and in some instances the endeavour has proved futile. The name "Carlwm" for the Stoat, for example, has baffled all attempts to trace to its origin.

The subject is well worthy of attention and is by no means uninteresting. It is remarkable how the Welsh have, in many cases, fixed upon totally different characters in naming a species, from those which form the basis of its English names. For instance, the idea that the Nightjar "sucks goats" (hence *Caprimulgus* = Goatsucker) does not appear in any of the bird's Welsh names. Instead of this its curious reeling note is fixed on as its most prominent characteristic, and the bird is called TROELLWR or NYDDWR, both meaning "Spinner." The idea, of course, is that the note resembles the sound of a spinning-wheel. The note of the Grasshopper-Warbler is likened to the same sound, but, being a smaller bird, it is distinguished by a suffix to denote the fact—Troellwr-bach = Little Spinner. The reader will find many other interesting examples scattered through the book.

The pronunciation of Welsh is not so difficult as the written word makes it appear; the English reader will be able to pronounce most words correctly if he will observe the following simple rules:—

1. Always accent the last syllable but one.

2. Pronounce every letter in a word. There are no mute letters in Welsh. For instance, H is always a strong aspirate, even when it follows C or R. The word "Goch" (= Red) occurs frequently in this volume: it is pronounced "Gōch" (the terminals as in Scotch "Loch").

3. W is a vowel, = oo in "good."

4. F = V, but FF = F'.

5. L = L, but LL = Hcl.

6. D = D, but DD = Th, soft as in "the."

7. C and G are always hard, as in "Cat" and "Gig."

8. U = ĩ, as in "it."

9. Y = ũ, except in the last syllable of a word when it = ĩ. The two sounds occur in the English word "Funny" or Welsh "Mynydd."

I am greatly indebted to the Rev. Thomas Shankland, Mr. D. G. Goodwin, and Mr. L. Wilson Roberts, for much kind help in preparing the list of Welsh names.

THE MAMMALS OF NORTH WALES.

THE history of the Mammals of North Wales resembles that of other districts of Britain in that it relates the gradual extinction of many species from the limited fauna of these islands.

At the present time forty-one species are known to occur in North Wales, eight became locally extinct within the historic period, whilst fifteen have been identified only from remains found in limestone caverns of the pre-historic era. These last are treated herein collectively—the remainder under separate headings for each species.

The nomenclature adopted is that now used in the British Museum, and has been revised by Mr. Oldfield Thomas and Captain G. E. H. Barrett-Hamilton.

As mentioned in the introduction, no list of the Mammals of North Wales has hitherto been published except that written by T. C. Eyton in 1836.

PRE-HISTORIC MAMMALS OF NORTH WALES.

WITH NOTES ON THE VAYNOL WILD CATTLE.

FOR our knowledge of the mammals which lived in North Wales in the Neolithic epoch, but became extinct before the historic period, we are indebted to the researches of those who have explored the caves and fissures in the limestone of Denbighshire.

The earliest exploration was made in 1833, when a cave at Cefn, near St. Asaph, was carefully examined and the floor excavated in search of animal or human relics, under the supervision of Rev. Edward Stanley, afterwards Bishop of Norwich, who published a full account in the *Proceedings of the Geological Society*, Vol. I., p. 402. About forty years later several other caves in the same neighbourhood, and at Llandegla, Denbighshire, were explored by Professor Boyd Dawkins and others, whilst a few years earlier a cave at Plas Heaton, worked out by the owner, Mr. W. H. Heaton, yielded most interesting results.

Several of the caves proved to have been used by man as places of occupation or sepulture. With the human inhabitants we are not now concerned, but it is interesting to note that several of the caves contained remains of domestic, as well as wild, animals—the Dog, Horse, Goat, and the Celtic Short-horn Ox (*Bos longifrons*). Also bones of several wild animals which still occur in the district—Fox, Badger, Water Vole, Hare, and Rabbit; as well as the following, which only became locally extinct in historic times:—Roe-deer, Red Deer, Wild Cat, Wild Boar, Wolf, and Bear.

As to the period when the animals lived, whose remains are found in the Denbighshire caves, opinions differ. Professor Boyd Dawkins, in his book on *Cave-Hunting*, holds the view that the animals all lived and died before the Great Ice Age, when the whole region was covered by a sheet of ice. On the other hand, Professor T. McKenny Hughes, in a paper on "Caves and Cave Deposits" (in the *Proceedings of the Chester Society of Natural Science*, 1894, 161), describes in

detail the animal remains found in a cave at Tremeirchion (close to the Cefn caves), and shows that these lived after, not before, the Glacial Epoch.

The following is the list of species found, with the caves in which they occurred :—

		Llandegla.	Cefn.	Plas Heaton.	Tremeir- chion.
Dog	<i>Canis familiaris</i>	*		†	
Fox	<i>Vulpes vulpes</i> ...	*	*	†	*
Wolf	<i>Canis lupus</i> ...		*	†	*
Brown Bear	<i>Ursus arctos</i> ...				*
Grizzly Bear	<i>Ursus horribilis</i>		*		
Cave Bear	<i>Ursus spelæus</i> ...		†	*	
Badger	<i>Meles meles</i> ...	*		†	*
Glutton	<i>Gulo luscus</i> ...			†	
Spotted Hyena	<i>Hyæna crocuta</i>		†	*	*
Cave Lion	<i>Felis spelæa</i> ...		*		*
Wild Cat	<i>Felis sylvestris</i> ..				*
Rabbit	<i>Lepus cuniculus</i>	*			
Hare	<i>Lepus europæus</i>	*			
Mammoth	{ <i>Elephas</i> <i>primigenius</i> }		†		*
Rhinoceros	{ <i>Rhinoceros</i> <i>tichorhinus</i> }		†		*
Horse	<i>Equus caballus</i>	*	†	*	*
Hippopotamus	{ <i>Hippopotamus</i> <i>amphibius</i> }		*		
Wild Boar	<i>Sus scrofa</i> ...	*	*	†	*
Roe-deer	<i>Capreolus capræa</i>	*		†	*
Reindeer	<i>Cervus tarandus</i>		†	*	*
"Irish Elk"	<i>Cervus megaceros</i>		*		*
Red Deer	<i>Cervus elaphus</i> ...	*	†	†	*
Goat	<i>Capra hircus</i> ...	*			
European Bison	<i>Bos bison</i> ...		†	*	
Aurochs	<i>Bos primigenius</i>				?
Celtic Short-horn	<i>Bos longifrons</i> ...	*			*

The sign † indicates that specimens from the locality are in the Chester Museum.

It seems strange in these days to imagine such animals as the Lion, Hyena, Rhinoceros and Hippopotamus inhabiting North Wales, yet such was undoubtedly the case. The Great Cave Bear was a huge and powerful beast, whilst largest of all was the great primeval elephant—the Mammoth. All these seem to have been fairly common in the district.

Four species of Deer were found in these caves, including the Reindeer, and the so-called “Irish Elk” with its enormous spreading antlers.

Judging from the fact that their remains occur in all four localities, the Fox, Horse, Boar, and Stag were generally distributed and common. The Wolf, Hyena, Badger, and Reindeer occur in three out of the four districts, and were apparently all numerous. The Grizzly Bear and Glutton were both rare; the former, indeed, has not been identified with absolute certainty, but a lower jaw of the latter is figured in Boyd Dawkins' *Cave-Hunting*. The Glutton is one of the largest of the Weasel family, and became extinct locally at an earlier period than most of the other species in the list.

The Goat has so long been associated in the popular mind with Wales and its mountains, that it is worthy of remark that no remains of it have been found in the Denbighshire caves in deposits of greater antiquity than Neolithic times, so that its right to be considered indigenous is somewhat doubtful. In this connection it is noticeable that the fauna of the Llandegla cave in its entirety is distinctly more modern than that of the other caves, and the cave itself was a Neolithic burying place.

With reference to the original Wild Oxen of North Wales, apparently no remains of the larger Aurochs (*Bos primigenius*) have ever been found in the district, though the smaller race (*Bos longifrons*) is common. This Ox was domesticated by the Ancient Britons long before the Roman invasion, and probably even in Neolithic times. It is the stock from which the small Welsh cattle have descended, as well as the breed commonly known as Chillingham Wild Cattle.



WILD WHITE CATTLE IN VAYNOL PARK.

Photographed by H. E. FORREST.

[To face page 4.]



A herd of these interesting animals was introduced into Vaynol Park by the late Mr. G. Duff Assheton Smith some forty years ago, and did remarkably well in their new environment, increasing rapidly, and developing into a strong and healthy race. With Mr. Laisters F. Lort, I have several times had the pleasure of seeing the Vaynol Cattle, and photographing them.

Despite the length of time they have been in the park, and their consequent familiarity with men passing through the domain, they still retain many wild traits. They are nervous of strangers, and if anyone approaches them they stop grazing, draw together, and range themselves with the calves in the centre, and the bulls in the forefront. They stand motionless and watch the stranger to see if he will pass by; if, however, he approaches them, they suddenly turn round and gallop away to a distance, when, wheeling round, they again draw up in a body and watch. This manœuvre will be repeated again and again, but if the stranger persists in following them they will eventually become dangerous and, instead of galloping away, will charge at him. Sometimes one of the bulls will turn sulky, and keep away from the herd, generally because he has been driven off by the other bulls. These "solitaries" are apt to be troublesome, and, in order to reduce the number of bulls—usually in excess—one or two are killed now and then. They are always shot with a rifle.

The Vaynol Cattle are entirely white except the nose and ears, which are black. As with other similar herds at Chillingham and elsewhere, a cow will occasionally drop a coloured calf. On one of my visits I noticed two black calves in the herd. These are always killed in order to keep pure the white character of the herd. The original stock was purchased from Sir John Orde, of Kilmorey, and had not been crossed with any other breed until a bull was introduced from the Duke of Hamilton's herd in Cadzow Forest. This bull was a failure, being less hardy than the others, whilst most of his progeny were black or spotted.

No black calves had appeared until this animal was introduced, and there have been but few since his death.

Another wild trait which is noticeable in these cattle is that when a cow has dropped a calf she hides it away in some thicket or corner while she goes off to feed. If anyone approaches the calf to get a nearer view, the little beast will jump up and charge, and it is no easy matter to shake him off; indeed, small as he is, he will take a big man's legs from under him with ease!

1.—NOCTULE OR GREAT BAT. *Pterygistes noctula*
Leisler.

YSTLUM FAWR = Great Bat.

Generally distributed in the lowlands where wooded.

The Noctule is distinguished from other bats by its quick powerful flight, high in the air; by its large size, and by its habit of coming abroad a little before sunset.

It turns and dashes about with ease and vigour, every now and then plunging obliquely downwards to capture some moth or beetle that has crossed its path. I am convinced that the Noctule finds its prey chiefly by sight, for if small stones are thrown into the air across its track, the animal invariably darts towards them until it discovers their nature, when it turns aside. Its eyes are larger and less deeply imbedded in the fur than in other bats. Furthermore the Noctule does not fly in the dark, but retires to roost with the last fading beams of light. The duration of its flight is generally from one to two hours, whilst in summer it very frequently comes abroad again to feed for an hour or so in the early morning.

It roosts mainly in hollow trees, though sometimes in roofs of buildings, in colonies of fifty to one hundred or more, each colony consisting of one sex only. Although so many harbour together, when on the wing seldom more than six or eight are in sight at once, so that the animals evidently spread over a wide area to feed.

I think that the Noctule changes its feeding ground from time to time, for it may be seen night after night working a certain beat, then no more there, but haunting another beat perhaps half a mile off. Probably it preys on different insects at different seasons and changes its haunt accordingly.

Most authors state that the Noctule hibernates more than half the year, but this is not so, for I have often seen it

flying about the middle of March and regularly up to the end of October—in 1903 even up to 12th November—whilst I have noted it in vigorous flight during very stormy weather.

This species shows a marked preference for the neighbourhood of large timber and sheets of water.

ANGLESEY. Obtained Penmon and seen Llanfair, P.G. (Oldham).

CARNARVON. Distributed along north coast as far west as Penmaenmawr (Newstead). One taken from hollow tree, Llandudno, 1905 (Forrest). Common about Conway (Moore), Portmadoc (Haigh, *Zoologist*, 1887, 293), Nevin; apparently feeding on winged males of Black Ant (Coward, *Zoologist*, 1901, 53). Several Bettws-y-coed, May, 1898 (Oldham).

DENBIGH AND FLINT. Distributed sparingly all along north coast (Newstead). Often seen Mold (Cooke), Llangollen (Ruddy), Prestatyn, 28th August, 1904. Numerous west of Colwyn Bay, 7th September, 1904; at Gredington over one hundred seen to issue from hollow tree (Forrest). Colony in church roof, Nantglyn (*Zoologist*, 1901, 51); a few Llanfairtalhaiarn, 13th June, 1905 (Oldham).

MERIONETH. Common Palè and Llanfor, near Bala; seen flying 12th March, 1881, and 1st November, 1903 (Ruddy). Common in wooded parts round Penrhyndeudraeth (Haigh). Apparently absent Barmouth district, September, 1904 (Forrest).

2.—PIPISTRELLE OR COMMON BAT. *Pipistrellus pipistrellus* Schreb.

YSTLUM = Bat.

Probably common throughout the district, but rarely actually identified.

Although generally reputed to be the commonest bat in the district, so few specimens of the Pipistrelle have been sent in for identification that the matter must be considered still *sub judice*. It has, however, been found in widely separated localities, so is probably pretty generally distributed.

The Pipistrelle is generally found in towns and villages,

harbouring by day in roofs and other roosting places, and issuing forth about twilight. Its flight is rapid and irregular, with many quick turns, and is usually rather low down—about on a level with the eaves of cottages; it seldom roams afar, but beats backwards and forwards continually over one small area.

Its hibernating period is shorter than that of any other British bat, as it may frequently be seen on mild days even in December or February. It also not uncommonly comes out in broad daylight, and I once saw one hawking for flies along with a crowd of Swallows and Martins at mid-day in brilliant sunshine. Light, however, would not affect the bat one way or the other, as it finds its prey by its delicate sense of touch or hearing rather than by sight, the eyes being practically useless.

In north-west Merioneth Mr. G. H. Caton Haigh says, "This Bat is not nearly so abundant as in most parts of England, and, except in the immediate vicinity of houses, is probably outnumbered by several other species. Although the smallest of British bats, the *Pipistrelle* frequently preys on rather large insects; the Crane-Fly, commonly called 'Daddy Longlegs,' apparently forms a considerable portion of its food."

ANGLESEY. Obtained Penmon (Oldham).

CARNARVON. Common about Conway (Moore). Deganwy: one seen 28th December, 1904 (Hutchinson), Nanhoron (C. Ll. Edwards). A few seen Criccieth, 12th June, 1903, and Bettws-y-coed, May, 1904 (Forrest).

DENBIGH and FLINT. Common Colwyn Bay (Russell). Seen Prestatyn, 27th August, 1904 (Forrest). Common Llangollen (Ruddy), Rossett (Benden). Often seen by river at Mold on bright afternoons in November or December (Cooke).

MERIONETH. Common Llandderfel (Ruddy), Bala (Forrest). Specimen from Penrhyndeudraeth in British Museum (Haigh).

MONTGOMERY. Common Carno (Davies), Llanerfyl (Harington), Garthmyl (Johnes).

3.—NATTERER'S OR REDDISH-GREY BAT. *Myotis nattereri* Kuhl.

Common round Harlech : recorded also in Denbighshire.

Natterer's Bat seems to be common in only one locality in the district—Harlech. As long ago as 1835 Thompson recorded it as occurring in Harlech Castle.* Mr. J. Backhouse received from the same place a box containing thirty-five on July 22nd, 1898, and published a description of these, with a photograph, in the *Zoologist* for that year. He presented some of these to the British Museum, and, on examining them, I noticed that the young were mouse-colour on the back, not reddish.

Mr. D. A. Jones subsequently sent me several specimens at different times, all taken at Harlech, though not in the castle. One was found, 17th September, 1901, in a house-roof. It is evident, then, that at Harlech there is a long-established colony of these animals, and very possibly it occurs elsewhere, but is overlooked.

Of the young Mr. Backhouse remarks, in the article mentioned above, that it "is darker above than the adult, and noticeably paler beneath—in fact, nearly pure white. The specifically characteristic long spur and hairy margin to the distal portion of the interfemoral membrane is equally observable in the young. Another recognizable point in both old and young appears to be the presence of hairs upon the feet—a point overlooked by Bell (1874), though pointed out by Lord Claremont in 1859. Some of the young were more downy than hairy above, especially about the face."

Mr. G. H. Caton Haigh once saw a Bat, which he had no doubt was of this species, flying in broad daylight during a thunderstorm at Aberdunant, in south Carnarvonshire. He

* *Zoologist*, 1887, 346.

thinks he has also seen it at Minfford, Merioneth. Both places are within a few miles of Harlech.

On 2nd December, 1905, Messrs. Coward and Oldham watched a solitary Natterer's Bat flying beneath the arch at Cefn caves in daylight. It was a warm, spring-like day, and insects were abundant.

4.—DAUBENTON'S BAT. *Myotis daubentoni* Leisl.

Occurs probably in all the counties, but has not been recorded from Anglesey.

This is so entirely different from all the other bats in its flight and habits that there is not the least difficulty in identifying it on the wing.

One has only to go out on a quiet moonlight night to the banks of some sheltered pool or slow-moving stream, and there the little creatures—usually three or four—will be seen fluttering silently over the water, close to its surface, and never rising more than six inches above it, yet seldom disturbing or touching it. They rarely travel far from one spot, but the long night through keep wheeling backwards and forwards over the same chosen nook. On the approach of dawn they flit off to their roosting place—a barn or outhouse—there to roost huddled in some snug corner till darkness again holds sway over the land.

Daubenton's Bat is so entirely nocturnal that it easily escapes notice even in districts where it abounds, unless the observer goes specially to search for it, or chances to come across it roosting by day. Thus it happens that of actual records in North Wales we have very few. This, however, does not necessarily show that Daubenton's Bat is rare in the Principality, and there is little doubt that further search will reveal its presence in all suitable localities.

Mr. Caton Haigh says it frequently dips its nose into the

water, and adds: "the cry is weak and shrill, sometimes prolonged into a sort of chatter."

ANGLESEY. Not recorded.

CARNARVON. Occurs Bettws-y-coed (Oldham, *Zoologist*, 1887, 317).
Common about Portmadoc (Haigh).

DENBIGH AND FLINT. Occurs on the meres on the Shropshire border (Forrest). Common Llangollen (Ruddy), Llanfairtalhaiarn (*Zoologist*, 1905, 308).

MERIONETH. Common in suitable localities western parts of Merioneth (Haigh, *Zoologist*, 1887, 293; and 1889, 434).
Received living examples taken by Mr. Ruddy in an outhouse at Palè, in 1902 (Forrest).

MONTGOMERY. Common on pools and Severn at Welshpool (Forrest).

5.—WHISKERED BAT. *Myotis mystacinus* Leisler.

Very numerous in Merioneth and neighbouring part of Carnarvonshire; found also in Denbighshire; not recorded elsewhere.

This species is "found in all sorts of situations in company with the Pipistrelle, which it very much resembles in some of its habits. It differs considerably, however, in its choice of a hunting ground and in its flight, which is slow and steady as in *M. daubentoni*. The Whiskered Bat comes abroad earlier in the evening than the last-mentioned species, and usually selects for its hunting ground the sheltered ends of a high hedge or plantation, or even a cliff, along which it flies to and fro, seldom rising as high as the tops of the trees or rocks nearest to it. When crossing an open space it generally keeps close to the ground. I have never observed this species frequenting the open places in woods of which the Pipistrelle is very fond."*

In the *Zoologist*, 1899, p. 471, is a most interesting article by Mr. Charles Oldham on the mode in which bats secure their prey. In it the writer shows that the tail of the Whiskered Bat, with the membrane on each side connecting

* Caton Haigh, *Zoologist*, 1887, 294.

it to the legs, is curved inwards so as to form a pouch. Whenever the bat takes a large insect which struggles to escape, it ducks its head into this pouch so as to get a secure grip of its prey. By watching captive bats he was able to demonstrate this, and he found that all the allied species of bats acted in the same way.

The pouch is most pronounced in the Whiskered and Long-Eared Bats. In Daubenton's and Natterer's Bats the tail is not so strongly decurved; whilst in the Noctule the curve is but slight, and the pouch, consequently, comparatively shallow. Even in the last-named species, however, Mr. Oldham informs me that specimens he "had in captivity always 'pouched' large beetles in the typical fashion, although they did not so serve moths—even large ones—as a rule."

ANGLESEY. Not recorded.

CARNARVON. Found in an old mine at Abersoch, in June, 1896. (Oldham, *Zoologist*, 1896, 255). Observed several believed to be this species at Criccieth, 12th July, 1903 (Forrest). Plentiful Portmadoc district (Haigh).

DENBIGH AND FLINT. I have seen bats at Llanrwst which I feel certain were of this species (Forrest). One caught in old mine tunnel Coed Coch, 14th January, 1906 (Oldham).

MERIONETH. The most plentiful of the bats in Merioneth (Caton Haigh, *Zoologist*, 1887, 294); specimens from Penrhyndeudraeth in British Museum (*id.*). Received specimens from Mr. D. A. Jones, Harlech, 27th November, 1902; from Mr. Nicholson, Dinas Mawddwy, in 1900 and 1901, and from Mr. F. C. Rawlings, Barmouth, in 1900. Two flying at Bala in August, 1901 (Forrest).

MONTGOMERY. Not recorded.

6.—LONG-EARED BAT. *Plecotus auritus* Linn.

YSTLUM GLUSTIOG = Eared Bat.

Generally distributed, and common in many places.

So far as it is possible to judge from somewhat meagre records the Long-eared Bat is found everywhere.

The enormous ears render identification easy, whilst the way in which these are folded up and laid back beside the cheeks and neck, when at rest, is worth studying. They are doubtless extremely sensitive, and of essential service to the bat in finding its insect prey on dark nights, for it is of nocturnal habits, and rarely met with in daylight.

Mr. Caton Haigh describes how in April, 1887, he watched a number of Long-eared Bats frequenting a group of three tall silver fir trees standing close together amongst stunted oak and hazel bushes. On warm nights these trees appeared full of bats, sometimes flying with the greatest rapidity through the branches, and sometimes hovering like great moths at the extremities of the twigs. On going underneath the trees the bats presented a still more curious sight; generally upwards of a score moving about in the space of a few feet. Occasionally they touched the branches when picking off an insect. Their food consists chiefly of moths, and probably small caterpillars.*

ANGLESEY. Occasional Menai Bridge (Humphreys).

CARNARVON. Has been caught near Conway (Moore). Fairly common Deganwy (Hutchinson). Received twenty-one in box from Mr. V. P. Lort, Vaynol, Bangor, taken in a building in August, 1903 (Forrest). Common Capel Curig (H. C. White).

DENBIGH AND FLINT. Sparingly distributed in many localities (Newstead). One caught at Llanrwst in May, 1901 (Halhed).

MERIONETH. Rather scarce Dovey Estuary (Feilden and Ker-shaw). Common Towyn (Kirkby). Very numerous in Merioneth (Haigh). Occurs at Palò (Ruddy).

MONTGOMERY. Occurs sparingly at Welshpool (Bruce), Mar-
rington (Horwood), Carno (Davies) and Llanerfyl (Haring-
ton).

7.—GREATER HORSE-SHOE BAT. *Rhinolophus ferrum- equinum* Schreb.

Two examples, both in the Barmouth district.

The occurrence of this species in North Wales is particularly

* *Zoologist*, 1887, 294.

interesting as its habitat in England was supposed not to extend beyond the southern counties.

Mr. Caton Haigh recorded in the *Zoologist*, 1896, p. 433, one taken from a disused mine near Penmaenpool by Mr. Oxley Grabham. In reply to my request for further details Mr. Grabham wrote: "I am afraid I cannot give you much more information. It was about the middle of May when I was in Wales on an ornithological expedition. I had often had specimens sent from South Wales (Tenby) and so, not considering it to be of any particular interest, I let the bat go after having examined it."

The second example was shot earlier in the same year—5th February, 1896—by Mr. F. C. Rawlings, of Barmouth, who afterwards kindly sent it to me for inspection. It was hovering near the ground on the railway bank, as if about to alight, and in the dusk he mistook it for a bird. It is worthy of note that both these specimens occurred close together on the west coast, and far to the north of any known haunt of the Greater Horse-shoe Bat. Another point worthy of notice is that Mr. Rawlings' specimen was obtained on the 5th February—a date at which this somewhat delicate bat *ought* to have been fast asleep in snug winter quarters instead of wandering in wild Wales!

8.—LESSER HORSE-SHOE BAT. *Rhinolophus* *hipposiderus* Bechstein.

Numerous in certain parts of Denbigh and Flint; occurs also in Carnarvon and Merioneth.

This bat "is apparently strictly nocturnal in its habits, never coming abroad till it is quite dark. During the day it may be seen hanging from the roofs of caves and houses, always in the darkest part. I once saw several bats of this species in the lower level of an old lead mine, to gain access to which they must have descended a shaft fifty feet deep into

an upper level, and after traversing this, have passed through a small hole in the floor to the place where I found them. On the few occasions on which I have seen this bat abroad it was flying slowly close to the ground.”*

“It differs from all other British bats, except the Greater Horse-shoe, in the position in which it sleeps; like all other bats it hangs head downwards, clinging to some irregularity in the rock roof by the sharp curved claws of its feet; but whereas other species hold the wings folded alongside the body, the Horse-shoe brings its forearms together behind its back and clasps one hand over the other, entirely enveloping itself in its voluminous wing-membrane. Its legs are particularly long in proportion to its body, and its tail much shorter than in other species; when the bat hangs, this short tail is recurved along its back, and the membrane connecting it with the legs forms a channel or downspout capable of carrying off any drops of moisture which may fall from the roof above. As the animal hangs wrapped in its wings it looks like a two-stalked pear or the pupa of some large moth.”†

The writer of the foregoing gives other interesting details regarding the Lesser Horse-shoe Bats in Cefn caves. He found none there in August but on revisiting the caves in mid-November there were numbers of them, some hanging from the walls, others from the roof, but all so as to hang free and not touch the rock with their bodies. It appears then that this—like the Greater Horse-shoe—seeks different quarters in summer and winter, in some instances.

The lethargy of the bats is deeper in spring than in early winter, and it is probable that for some time after entering the caves for the winter the bats feed before actually hibernating. The caves, which in winter are warmer than the outer air, contain numerous flies, gnats, and a few moths and spiders. The spiders feed on the insects and the bats

* Caton Haigh, *Zoologist*, 1887, 294.

† T. A. Coward, *Manchester Guardian*, 20th January, 1904, and a fuller account in *Proc. Zoological Society*, 1907, 849.

on both, for traces of spiders have been found in the excrement of the bats.

The Horse-shoe Bats differ from all other British species in having pointed ears; a leaf-like appendage on the nose (whence the name); in the tail being curved upwards instead of downwards; and in the manner of folding the wings, described above. The fur, too, is lighter than in other native species.

ANGLESEY. Not recorded.

CARNARVON. Example taken, hanging with about a dozen others, in cave at Talybont, 24th September, 1903 (Oldham, *Zoologist*, 1903, 430).

DENBIGH AND FLINT. Specimen in Chester Museum from Cefn caves; common in Vale of Clwyd (Newstead) in caves at Cefn and Tremeirchion; two in mine tunnel, Coed Coch, 14th January, 1906; one in tunnel near junction of Rivers Aled and Elwy, 1st April, 1906; another Colwyn Bay and two Llandulas, all in separate tunnels, 3rd March, 1907 (Oldham). Taken in old lead mine, Ceiriog Valley (Coward).

MERIONETH. Found several places round Penrhyndeudraeth but not common (Haigh, *Zoologist*, 1887, 294).

MONTGOMERY. Not recorded.

9.—HEDGEHOG. *Erinaceus europæus* Linn.

DRAENOG = Spiny; DRAENOG Y COED = Spiny of the Wood;
BALLOG = Prickly; MOCHYN Y COED = Pig of the Wood;
SARTH = Hedgehog (literally, Reptile).

Common everywhere.

The Hedgehog occurs not only in the lowlands but at elevations far beyond what might be expected. Thus, in July, 1901, Mr. A. R. Horwood found a nest on the top of Corndon (1684 feet), whilst Mr. J. Lloyd Williams reports that he once found a dead Hedgehog on Y Garn at an elevation of 2500 feet; there was no visible injury, so that it was not apparent that a bird of prey had carried it up thither.

The numbers that occur in certain districts may be judged from the fact that Mr. Henry Robinson knew of thirty-seven

being trapped at one hole in a wall near Towyn within six weeks—an average of nearly one a day.

Capt. W. Buckley, who has had much experience of trapping around Bala, finds that Hedgehogs will readily eat carrion, stale trout, and rabbit offal. He also believes, from experiments on captive animals, that the Hedgehog lives to the age of at least twenty years.

Mr. R. Roberts reports a nearly white specimen at Penybont, near Oswestry, in the summer of 1901; whilst in the *Field*, 6th October, 1888, is an account of a milk-white Hedgehog found in a field at Pwllheli, 26th September, and another reported caught in a trap a short time before.

10.—MOLE. *Talpa europæa* Linn.

GWADD = Mole; TWRCH DAIAR = Earth-burrower; WNT = "Wand" (Anglo-Saxon for Mole).

Common everywhere—even high up on the moors.

The distribution of the Mole in Wales is remarkably wide, for it is met with from just above sea level up to an elevation of 2000 feet.

I have seen both Moles and mole-heaps along the sandhills on the north coast of Flint and Denbighshire, where one would think that there could be few, if any, worms, and Mr. C. Oldham informs me that superficial workings of Moles are abundant in the sand and shingle of the Malldraeth and Alaw Estuaries in Anglesey. These runs sometimes extend over acres of ground and are in situations which are covered at by no means the highest tides. It is difficult to imagine what the Mole feeds on in such places.

The fact that Moles can swim is now pretty well known. In the *Field*, 24th August, 1872, is an account of one taken in the middle of Talyllyn Lake, whilst swimming across. In May, 1904, Dr. H. W. Gardner, of Shrewsbury, saw a Mole plunge into the River Conway near Pentre Voelas—a rapid stream there—and swim across. Mr. Ruddy states that on

January 7th, 1903, one was seen to swim from a little island in some flood water in a meadow near Bala. At first it swam in circles as though uncertain of its bearings, but soon struck out for the opposite shore, swimming well and steadily. Mr. Ruddy picked it up and examined it, and then put it back into the water when, to his surprise, it swam back to its island home, some ten yards distant. On gaining the shore it ran direct to the highest point, and at once burrowed into the earth.

Varieties of the Mole are numerous. Many are recorded in newspapers as white, but on examination they almost invariably prove to be cream-coloured. Examples of this description may be seen in the Hon. C. H. Wynn's collection at Rûg, and others have been recorded at Bettws, Montgomeryshire (J. Hamer Jones) at Guilsfield, Welshpool (*Bygones*, April, 1897), several trapped in boggy land at Llanllugan, Montgomeryshire (L. F. Lort), whilst a writer in the *Field*, 24th August, 1872, describes several white ones with orange bellies, taken near Welshpool. Mr. Ruddy records specimens of a rich cream colour with orange on the back and underparts, obtained on Arenig and at Carrog; adding that a local mole-catcher told him he once caught one striped with orange and black. A very curious pied example was trapped some years ago at Bala, by Capt. W. Buckley: it had a white tip to both nose and tail and a white patch on the breast. All the light-coloured ones that I have examined are apricot-coloured on the underparts, especially on the breast.

11.—COMMON SHREW. *Sorex araneus* Linn.

LLYG = Shrew; LLYGODEN-GOCH = Red Mouse; CHWISTLEN = Whistler (from its shrill cry).

Generally distributed and plentiful in lowlands; scarce at higher levels.

The idea that the Shrew is a kind of mouse is so firmly

fixed in the public mind that it seems almost useless to cavil at it.

Even naturalists are not altogether free from this error, for how often do they plead on behalf of the Barn Owl that it should be spared because it feeds on mice and shrews. That it does good by killing the mice that devour the farmers' crops is perfectly true, but to suppose that it does good by killing shrews is altogether a mistake. The Shrew is an insectivorous animal, and it is almost the only mammal in this country that feeds on *insects on the ground*, so that it is one of the farmers' best friends.

Fortunately for its safety the Shrew is provided with an effective protection in the shape of a secretion which is so disagreeable that very few animals will eat it. Cats kill, but never eat shrews, and of the birds of prey the Barn Owl is almost the only one that regularly feeds on them. As an exception, I may mention seeing a shrew taken from the stomach of that rare bird, the Red-footed Falcon, killed near Shrewsbury, 18th May, 1901.

Insects form the staple diet of the Shrew, but in confinement, and possibly also in the wild state, it will readily eat any kind of flesh, and will pick the bones of any small animal perfectly clean in a very short time.

It is a remarkably pugnacious little beast, and if two are shut up together they invariably fight till one is killed.

Although so common, the Shrew is very rarely seen alive, for not only is it almost entirely nocturnal in its habits, but it seldom shows itself on open ground, keeping mostly to covered "runs" amongst the herbage on hedge-banks, etc. Its shrill sibilant cry is frequently heard when the animal which utters it is invisible.

In Denbighshire it is called Noshrew or Nushrew, whilst Mr. J. Hamer Jones states that about Newtown Shrews are known as "Titmice."

12.—LESSER OR PIGMY SHREW. *Sorex minutus* Linn.

Very rare, or overlooked ; recorded only in the western half of North Wales.

This tiny species so easily escapes notice unless specially searched for that it may possibly be less rare than it is reputed to be. Still it certainly is not common.

Mr. T. A. Coward found two skulls in pellets of the Barn Owl at Rhos-neigr, Anglesey, 11th June, 1897 ; * whilst at Llandegfan, Anglesey, Mr. J. Rowland says it occurs, but is scarce. Mr. W. B. Halhed states that at Llanrwst his cats have several times brought in Lesser Shrews. Early in March, 1907, Mr. C. Oldham found two skulls in pellets of the Barn Owl at Old Colwyn. In Merioneth Mr. F. C. Rawlings obtained a single example at Barmouth, whilst at Penrhyn-deudraeth Mr. Caton Haigh informs me it is “as numerous as in any part of England with which he is acquainted ; it is principally a woodland species, but he once found a dead one half way up Yr Eifl.”

13.—WATER SHREW. *Neomys fodiens* Pall.

LLYG-Y-DWFR = Water Shrew.

Generally distributed in lowlands.

A somewhat timid creature, the Water Shrew escapes the notice of all but the most observant, so that the records of its occurrence in North Wales are but few. Nevertheless from the fact that it has been identified in all the counties, whilst in the Conway district it is fairly common, it may be assumed that the species is generally distributed in suitable places.

ANGLESEY. Skull found in owl pellet Llanerchymedd, May, 1903 (Oldham), and two skulls at Rhosneigr, 1897 (Coward, *Zoologist*, 1897, 326).

* *Zoologist*, 1897, 326.

CARNARVON. Frequent Conway (Moore); fairly common Nanhoron (Ll. Edwards). Several brought in by cat Deganwy, in summer, 1903 (Hutchinson).

DENBIGH AND FLINT. Recorded at Llanrwst (*Faunula Grustensis*). Frequent there (Halhed) and Colwyn Bay (Newstead). Obtained St. Asaph, 1839 (Moses, M. S.). Two met with on Shropshire border, near Oswestry (Lees). Plentiful in district (Tower). Two seen Llangollen, 17th September, 1906 (Ruddy).

MERTONETH. Frequently seen, Palè (Ruddy). Fairly common Dovey Estuary (Salter), and about Penrhyndeudraeth; seen swimming under ice (Haigh).

MONTGOMERY. Occurs Aberhafesp, but scarce (Williams).

Wild Cat. *Felis sylvestris* Schreb.

CATH GOED = Cat of the Wood; CATH FYNDD = Mountain Cat; CATH WYLLT = Wild Cat.

Extinct, except for reputed hybrid descendants with the domestic cat.

There appears to be no extant specimen of a true Wild Cat obtained in North Wales, nor is there any direct evidence as to the period when it became locally extinct. Probably this happened at least half a century ago, yet even now examples occur from time to time showing distinct "Wild Cat" characters.

In the *Naturalist's Chronicle*, 1898, p. 25, Mr. John A. Bucknill gives a number of extracts from the old parish vestry-book of Dolwyddelan, Carnarvonshire. "There are a great number of entries relating to rewards for the killing of vermin, and a regular tariff seems to have been paid of 3s. for a fox, 2d. a raven, 6d. a Wild Cat or Wood Cat. For example—1764: For killing two W. Cats, 1s.; Ditto to John Williams for killing a Wooden (*sic*!) Cat, 6d. 1769: Two foxes and Wild Cats, 7s. 1770: Two Wild Cats, 1s. 1771: To David Roberts for killing three raven cubs (!), 6d."

In the parish accounts of Llansannan, Denbigh,* are

* *Bygones*, 1899, 17.

entries, among others, of payments for killing vermin : 1737 : Pd W. Jones for killing of fox, 5s. ; 1761 : Pd to John Evans for cild one crow, 4d. ; Pd to John Roberts of Nantymyrddin for cild four fockis, 10s. ; 1762 : Pd to John Roberts, miller, for cild two cats, 5s. ; Wm. Jones for cild 4 fox youngers, 10s. ; 1762 : Am ladd cath goed, 3s. 4d.

When the English word "cat" is used there is always a doubt as to whether the true Cat is meant, or the Marten, which was often called the Wild Cat. In Welsh, however, there is never any confusion as the Marten was always called "Bele." The last entry quoted above, being in Welsh, undoubtedly refers to the true Wild Cat (Cath goed) and it would seem that the beast was more disliked at Llansannan than at Dolwyddelan, since the former vestry paid a far higher reward for killing it than the latter.

Mr. R. I. Pocock, in the *Proceedings of the Zoological Society*, 1907, page 143, has shown that there are two distinct types of cat in this country—the striped tabby and the blotched tabby. Linnæus' name, *F. catus*, applied only to the latter, and as the European Wild Cat is a striped tabby that name cannot be used for it. Hence the name *F. sylvestris* Schreber must be used for our striped species.

It is also pointed out that the idea that the tail of the domestic cat is thinner and more tapering than in the wild one, is erroneous. The tails do not differ, but only the length of the hair. Hence the two cannot be regarded as specifically distinct. The alleged interbreeding of wild and domestic cats, although generally assumed, and often stated as a fact, does not appear ever to have been actually proved to occur in this country, even in Scotland where the Wild Cat still lingers.

ANGLESEY. No record except an incredible statement in *Land and Water*, February, 1892, that a Wild Cat was hunted and killed on Holyhead Island, 26th January, 1892.

CARNARVON. One caught in a trap in a wood at Clynnog, March, 1900, had the "Wild Cat" short tail (A. Bodvel Roberts). Traditionally known in the Gwydir woods early nineteenth century

(J. Lloyd Williams). On Lord Penrhyn's estate, Bettws-y-coed, 2310 Cats trapped between 1874 and 1902; whether any were genuine Wild Cats is not known (Foster). In 1893 a pack of otter hounds had an exciting chase after a "Wild Cat" in Carnarvonshire (local newspaper). Do not believe any true Wild Cats in the county for last fifty years (Evan B. Jones). Dolwyddelan (see above).

DENBIGH AND FLINT. Remains in cave at Tremeirchion (McKenny Hughes) (*Proceed. Chester Soc. Nat. Sc.* 1894, 181). Llansannan (see above).

MERIONETH. In the early eighties several trapped Dinas Mawddwy with all marks of true Wild Cat, as well as some apparently hybrids with domestic cat (Buckley). Several very large cats killed near Towyn, between 1880 and 1900 (Robinson).

MONTGOMERY. One with short bushy tail caught Llanerfyl many years ago (Harington). One apparently true Wild Cat trapped Abermule, 15th December, 1862, fought desperately before it was killed (J. W. Jones in *Field*, 3rd January, 1863).

14.—FOX. *Vulpes vulpes* Linn.

LLWYNOG = Beast of the Grove; LLWYNOGES = Vixen; LLWYNOGYN = Cub; MADYN = "Reynard"; CADNO (South Wales); CENAU = Cub.

Generally distributed, except in Anglesey, where it is not indigenous.

In Anglesey the Fox appears not to have been indigenous. This remarkable fact is attested by all resident observers. From time to time a few pairs have been introduced, but, as they were always killed very soon by the inhabitants, they never became established there.

The fact is all the more curious because just across the narrow straits in Carnarvonshire, the animal is common, especially amongst the mountains. Indeed, the Fox hereabouts is essentially a creature of the mountains, not of the lowlands, and when hunted invariably makes for the heights,

and tries to get into some place where there are quantities of loose boulders. Once within the recesses between these, it is no easy matter to dislodge him, and the task can only be accomplished by the aid of good terriers.

A Fox hunt in Wales is a very different affair from the English sport that goes by that name. Its prime object is to *kill* the Fox; for the farmers have a firm belief in Reynard's liking for Welsh mutton, or rather lamb, and they class him as "vermin" to be destroyed in any possible way. The nature of the country renders hunting with horse and hound quite impracticable.

The usual plan is for the local farmers and others to arrange a hunt, each man bringing a dog and gun or long stick to thrust between the boulders. The dogs are generally of any breed except hounds, whilst terriers are almost essential to success—for the dogs are wanted, not to run into the Fox, but to dislodge him. If he once shows himself the guns come into play, and he is soon bowled over. Although large numbers of men and dogs sometimes join in these forays, kills are not the rule. A writer in the *Field* mentions that "out of five Foxes driven in one day by terriers from a single earth on Moel Cynwch, near Dolgelley, not one fell a victim to the gunners and their collies."

Besides these scratch hunts, there are, of course, several packs of hounds, such as the Wynnstay, which hunt in Wales after the orthodox method; but these work only such districts as can be ridden over. There is, however, an old-established pack of Foxhounds kept by Mr. Evan B. Jones, of Ynysfor, near Beddgelert, which has been hunted by members of the same family for about a century. Although properly Foxhounds, the pack is equally good at Otter hunting, and it is recorded that on one day they hunted successively a Fox, an Otter, and a Marten.

The Welsh Fox is not only fleet of foot, but possesses wonderful staying power, and will not unfrequently escape after a pursuit of five or six hours, and after covering thirty miles of rugged mountain country.

The Welsh farmers usually organize hunts when the Fox cubs are still in the den, and either kill the cubs or take them alive, selling them to be turned down in English foxhunting counties. It is difficult to say how many Foxes and cubs are either "killed or caught alive and removed annually from the mountains of Carnarvon and Merioneth. The total must be a large one: many of the quarrymen are out after cubs two or three nights a week during the spring and summer. Even at the date of Pennant's *Tour* there were organized raids upon the Snowdon Foxes, and he states that one Margaret uch Evan 'killed more Foxes in one year than all the confederate hunts do in ten.' Another celebrated huntress of this district, Catherine Thomas, kept two or three small Welsh terriers of the old strain, with whose aid she captured many Foxes, and received a considerable sum in rewards from the farmers. Catherine kept her score of kills by cutting notches in her mantelshef, and it is said that in her old age the nicks numbered 175."* Rewards for killing Foxes have been in vogue in Wales for a very long time; they figure commonly in the vestry books. Some amusing examples are quoted under the head of "Wild Cat."

Mr. J. Lloyd Williams states that in Nant Francon the Lambs have their necks painted with a nauseous mixture to prevent the Fox getting hold of them in this vulnerable part.

The Welsh mountain Foxes are generally more grey than their English relatives. A white Fox was seen repeatedly near Wrexham in December, 1868.† In regard to the coloration, Mr. Evan B. Jones remarks that, generally speaking, woodland Foxes are lighter coloured than hill ones; some very light coloured ones have been seen round Ynysfor, and he has the mask of one of these, killed in 1903. He adds that in Carnarvon and Merioneth the animal is now by no means plentiful, the growing use of strychnine in parts of this country having seriously reduced the numbers.

* "Geoffrey Mortimer" (W. M. Galliehan), *Field*, 23rd March, 1901.

† *Zoologist*, 1869, p. 1558.

An old Welsh Foxhunter records in the *Field* of February 10th and 24th, 1900, that the Welsh mountain Foxes range between 10 and 20 lbs. in weight. Mr. Caton Haigh tells me that the heaviest Foxes recorded in the district by actual weighing were 19½ lbs. and 18 lbs. from Moel Ddu, and 17 lbs. from Arddu, all three killed by the Ynysfor Hounds. The smallest recorded was a vixen of only 9 lbs., killed in December, 1904.

Wolf. *Canis lupus* Linn.

BLAIDD = Wolf.

Extinct; probably since the beginning of the seventeenth century.

There is no direct evidence as to the date when the Wolf became extinct in North Wales. In the laws of Howel the Good its skin is valued at 8d., the same price being put upon the Otter, Fox and Stag, and from this it would seem that the Wolf was tolerably common in the tenth century.

Its memory still survives in such place-names as Bleddfa, Caer Blaidd, and others. At the foot of the limestone headland to the west of Abergele "in a glen beneath, is a ditch called 'Ffas y blaiddiaid,' or the ditch of the Wolves, possibly from the frequency of those animals in these parts."*

Traditions of Wolves in the Snowdon district are still rife in the neighbourhood, and it is hardly necessary to do more than mention the story of Beddgelert, in which the Wolf plays such a prominent part. Assuming some modicum of truth in the legend, this implies the existence of Wolves on Snowdon towards the end of the thirteenth century. There is little doubt that the animal was not exterminated for another two or three hundred years.

Remains of the Wolf found in Plas Heaton Cave, Denbighshire, are preserved in Chester Museum.

* Pennant *Tour*, 1810 ed. III., 156.

Bear. *Ursus arctos* Linn.

ARTH = Bear.

Extinct probably quite a thousand years ago.

Pennant* refers to the Bear as one of the ancient beasts of the chase in Wales, yet, since the animal is not mentioned in the laws of Howel the Good, it apparently became extinct at an even earlier period than the Beaver. As Mr. J. E. Harting has pointed out, the statement that the last Bear killed in Britain was slain in the eleventh century, by a Gordon, in Scotland, is founded on an error. There were no Bears in Britain after the ninth century.

It is strange how the memory of vanished species lingers in legend and folk-lore long after the animals themselves have vanished. A writer in *Bygonest* relates that when a number of mares in Anglesey had cast their foals, a certain person living near Holyhead "accounted for this by saying that this was the year when Bears whelp, and that mares always cast their foals when young Bears are brought into the world, which, he said, was once in three years." More tangible evidence of the former existence of Bears in North Wales is afforded by actual remains found in the Cefn Caves, examples of which may be seen in the Grosvenor Museum, Chester. The larger Cave Bear (*Ursus spelæus*) occurred here.

The Welsh name survives in such place-names as Penarth (= Bear's head) and possibly Arthog (= Bearish).

15.—PINE MARTEN. *Mustela martes* Linn.

BELE = Marten; BELE'R GRAIG = Rock Marten; "Stone Marten" (local, Bala district).

Still found in the wilder parts of Carnarvon and Merioneth; almost extinct elsewhere.

In the *Field*, 1855, p. 21, is an article describing the killing

* *Tour*, II., 281.

† 1892, 416.

of a Marten (in Carnarvonshire) by foxhounds in 1845. "The Welsh huntsmen, who followed the pack on foot with iron-spiked poles, said that the animal was common and lived in the rocks, preferring Welsh mutton, or rather *lamb*, to any other food."

In a subsequent issue (1858, p. 72) there is a very interesting account of hunting the Marten with hounds in the woods of Carnarvon and Merioneth. The writer notes that the breast-patch of the male is always of a brighter yellow than that of the female. The young have their eyes closed like kittens, and are of a slate-blue colour. He particularly mentions hunting Martens often about Bettws Garmon, and describes how at Aber Waterfall a young one leapt over a precipice—a sheer drop of forty feet. Stunned by the fall, but not otherwise hurt, it was taken home and placed in a stable, where it used to spend most of its time curled up on the back of one of the horses. It was never friendly with human beings, but on the approach of one would run off along the horse's back and up aloft. One day it got out and was found dead in a keeper's trap.

In no part of North Wales is the Marten so numerous as around Dolgelley, where the thickly-wooded valleys and rugged crags afford it a suitable asylum. The animal is reputed to be essentially a tree-dweller, and it certainly seems to be as much at home amongst the branches as the squirrel, and is possessed of equal agility.

Apparently it has learnt by experience that the woods do not secure it sufficiently from its enemies, for at the present day the Marten has taken to the rocks as a dwelling place rather than to the thick woods, and it is to some cave or passage between the boulders that the female retires when about to bring forth her family. The tops of many of the Merioneth mountains, particularly the Aran range, are rugged in the extreme—confused masses of huge stones tumbled together in a perfect chaos. Between the stones are endless passages and crannies which the lithe Marten can traverse with ease. If once the creature succeeds in reaching

these it can defy pursuit unless several good terriers, by heading it off continually, can by their combined efforts drive it forth.

Mr. C. G. Beale informs me that in the Dolgelley district some are caught every spring by the keepers who track them in the snow. He reared a young one which he presented to the Zoological Gardens in London, but it died. In the nest from which it was taken were found the remains of hares, rabbits, grouse, and lambs. Keepers and hill-farmers say that they can tell by the wound on a dead lamb whether it has been killed by a Fox or a Marten.

The late Mr. E. O. Partridge hunted the animal for years, and probably no one in Wales had such an intimate knowledge of its habits. I have seen specimens sent by him from Dolgelley to Shrewsbury for preservation. They were of a very dark brown colour, but when preserved they always fade very soon to a light brown hue. Mr. Partridge found by snow-tracks that the Marten, after following a circuitous winding route, always came back to the point from which it started, the whole circuit sometimes measuring over fifteen miles.

There is little doubt but that the Marten is not so stay-at-home as most mammals. It not infrequently roams over the country for many miles. This accounts for its sudden re-appearance in districts where it had not been known for many years previously, as, for instance, the Montgomeryshire examples mentioned below.* Mr. Evan B. Jones says that thirty to forty years ago it was quite a common occurrence for the Ynysfor hounds to find Martens, and they often killed them, but he has not seen one for the last twenty years. He attributes their disappearance to their being very easily caught in traps, and the great increase of game preserving and trapping in recent years.

ANGLESEY. No authentic record.

* In the spring of 1907 two were obtained in south Shropshire, where the animal had not been recorded for forty-five years.

CARNARVON. Specimen in own possession shot Pwllheli, 25th June, 1900 (Rawlings); three killed Beddgelert, 1879 (Harting, *Zoologist*, 1893, 162); one caught there February, 1890 (*Bygones*, 1890, 318); believe to exist there still; specimen preserved Menai Bridge (Lort), has occurred in recent years near Carnarvon (A. Bodvel Roberts); trapped on Snowdon (Gallichan); have one trapped near Penrhyn Castle (Feilden); few trapped in recent years Beddgelert (Evan B. Jones); formerly numerous, Bettws Garmon (*Field*, 1858, 72); pale example with whitish throat, killed Llanfairfechain, about 22nd April, 1892 (Newstead); two near Llanberis, 1895 (Salter, *Zoologist*). Between 1874 and 1890 thirteen trapped on Lord Penrhyn's estate near Bettws-y-coed; the last two on Conway Lake in 1890 (Foster); near Dolwyddelan is a rock called Castell Bele = Marten's Castle (Bucknill); male trapped Moel Siabod, November, 1905 (Calvert).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*) still occurs (Halhed); one seen there 1899 (Popham); one obtained on the estate, preserved Bodelwyddan Castle (Forrest). Near Ruabon is a glen called "Nany-y-Bele" = Marten's Dingle (Pennant *Tour*, 1810 ed. I., 390). One in own collection obtained at Glyn Ceiriog, 1883 (Lees); one on the Berwyns, near Llanarmon, D.C., September, 1900 (Kempster); one obtained near Hope, July, 1891, and a pale female with dusky white throat, Connah's Quay, 14th April, 1892 (Newstead).

MERIONETH. Many caught Llanbedr years ago (Wayne). Still occurs about Barmouth and Dolgelley (Rawlings and others); specimen in collection obtained Cader Idris, 1882 (Cosens). Rug made of Marten's skins all trapped on the Aran range (Buckley); one seen Cader in summer, 1879; very large skin taken Trawsfynydd (*Field*, 17th April, 1880). Saw one recently killed on moor between Barmouth and Dolgelley, March, 1901, and heard of two others 1900; still a few Arenig (Aplin); specimen in collection obtained Llandrillo, August, 1887; one 33 inches long killed near Dolgelley (Lees); one Aran Mawddwy, 22nd May, 1901 (Ruddy), and another near there in autumn, 1904 (W. E. Edwards); specimen in collection from Penrhyn (Kershaw), Towyn (Kirkby), two near Dovey Estuary in the nineties (Salter). Formerly common Penrhyndeudraeth but not seen last twenty years; heard of a few in Cwm Bychan (Evan B. Jones).

MONTGOMERY. One killed by Mrs. Curling's keeper at Maesmawr, Welshpool, about 1865; another Fronfraith, Abermule, November, 1895 (Lees).

16.—POLECAT. *Putorius putorius* Linn.

FFWLBAR = "Foulmart"; GWICHYDD = "Fitchet."

Almost extinct in the east and Anglesey; not uncommon in parts of Carnarvon and Merioneth.

A century ago the Polecat appears to have been common all over the district, but its destructiveness amongst poultry led to its extermination wherever possible. This has been accomplished chiefly by trapping, for the animal is very unsuspicious, and therefore easily taken in this way. It is a fierce beast when brought to bay, and if caught by the leg becomes absolutely furious.

In Anglesey the Polecat was probably never common, and has only been recorded once in recent years, on the Straits. At the present time it is almost extinct except in the wilder parts of Carnarvon and Merioneth, where it is still found in some numbers. A few also maintain a precarious existence on the hills of Montgomery and Denbigh, but will not long escape destruction.

Just beyond our southern limit, in Cardiganshire, lies a tract of country in which the Polecat is still quite common. Two examples of a curious variety were obtained there in 1902-3; they were of an uniform light brown colour, and lacked the usual facial markings.*

Mr. Ruddy relates that in the fifties the Polecat was regularly hunted about Corwen. One that had been trapped was released overnight, and next morning the hunting party followed up the cold scent with strong dogs for many a mile. In August, 1904, Mr. Evan B. Jones shot one in a rushy field at Ynysfor in broad daylight, and he remarks that the animal is very fond of marshy land, where it hunts along

* Forrest, *Zoologist*, 1904.

the stone-walls and ditches: a very fine one was killed there in December, 1905.

ANGLESEY. Scarce; two killed near Menai Bridge, 1902 (Humphreys).

CARNARVON. Not uncommon, Bangor (Lort), Carnarvon, six killed, 1902 (Wynne Williams), still fairly common; one shot 23rd March, 1900; two bolted out of rabbit burrow, Clynnog (A. Bodvel Roberts). Still occurs Nanhoron (C. Lloyd Edwards) and Llyn Quellyn; two trapped in spring, 1903 (H. G. White), Bettws-y-coed district ninety-eight killed between 1874 and 1902 (Foster).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*), seven killed there between 1891 and 1900 by Captain Buckley (Halhed). Formerly common Mostyn (H. Lester Smith), Mold (Cooke), St. Asaph (Rogers), Ruthin (Steer), Wirral (Byerley, *Fauna of Liverpool*) Llanarmon, D.C., occurred up to 1900 (Forrest).

MERIONETH. Two trapped Cemmaes, 1899; one a very fine old male (Forrest); round Bala and Dinas Mawddwy between ninety and one hundred trapped within the last thirty years (Buckley); one caught Crogen, 1894, and one Llandrillo, 1902 (Ruddy); one about 1880, Bala (Aplin); scarce Llanfachreth (Pugh), and Towyn (Kirkby); three in thirteen years (Robinson) Machynlleth, one 1903 (Anwyl). Still a few round Barmouth (Rawlings), Dolgelley (Bailey), Dovey Estuary (Feilden and Kershaw), Penrhyndeudraeth several every winter (Evan B. Jones).

MONTGOMERY. Llanllugan, common in the eighties (Lort); occasional still Llanerfyl (Harington) and Llanfair; saw one 1899; also seen twice in February, 1901, at Trelydan and tracked in snow (Beck). Local specimens, Leighton; now almost extinct there (Naylor). Still occurs Carno (Davies), Aberhafesp (Williams), and Garthmyl (Johnes). Payments for killing regularly occur in churchwardens' accounts at Llanbryn-mair a century ago (H. Lester Smith).

17.—STOAT. *Putorius ermineus* Linn.

CARLWM; BRONWEN = White-breast; GWENCI = White-dog.

Generally distributed, and common.

All observers report the Stoat as being more or less common,

and it occurs not only in the lowlands, but up to a considerable elevation amongst the mountains. It is perhaps less numerous in Anglesey than in any other of the counties of North Wales.

There is a general impression prevailing that the Stoat is more numerous than the Weasel, and certainly the former is more often seen than the latter, but the only actual statistics I have been able to obtain seem to show that the Weasel is really the commoner. On Lord Penrhyn's estate round Bettws-y-coed, Mr. A. Foster has recorded in the vermin book, that during the 28 years ending 1902 there were 3116 Stoats killed, but 4849 Weasels, or approximately five Weasels to three Stoats.

The Stoat in its white winter dress is called Ermine, but in Wales perfectly white examples are rare, there being nearly always some small brown patches remaining on the head. Examples have been noted by Mr. J. Hamer Jones at Bettws, Montgomeryshire; at Palè by Mr. Ruddy, three in January, 1894, and one very perfect in January, 1897; a female at Rhyl in January, 1903, by Mr. F. L. Rawlins; at Llanarmon, D.C., in March, 1904, by Mr. Thomas Jones, of the Glove Inn; several at Llanllugan, Montgomeryshire, by Mr. Laisters F. Lort; and on the Traeth Mawr by Mr. Caton Haigh.

It has long been a moot point whether the "ermine" dress is attained by blanching of the brown hairs, or by shedding these, their place being taken by a fresh growth of white hairs. A Stoat which I examined in January, 1905, was apparently in the transition state, the brown parts of the pelage being of a dirty greyish white, and it certainly appeared as if in this case the hairs were blanching. The fur, however, was rather thin, so that it is possible that a partial moult was taking place at the same time.

In 1901 I found the skull and bones of a fairly large young Stoat in some Tawny Owl pellets sent to me from Leighton, Welshpool, by Mr. Wm. Bruce. The Stoat is such a fierce and active little beast that it rarely falls victim to a bird of

prey, and the above instance is probably exceptional. Mr. J. D. Jones tells me that he knew of a case in which a hen Pheasant attacked by a Stoat called to its companions, which came to its assistance and compelled the Stoat to retreat.

The Stoat can swim well; Mr. W. M. Gallichan once saw one swim across the Dee—a strong, rapid river.

The Welsh name, “Gwenci,” appears to refer to the Ermine state; nevertheless it is used indifferently for both the Stoat and Weasel, as also is the name “Bronwen.” I have not been able to discover the etymology of “Carlwm.”

18.—WEASEL. *Putorius nivalis* Linn.

BRONWEN = White-breast; WENCI = White-dog.

Common and generally distributed.

Like the Stoat the Weasel is found in all the counties of North Wales, and is common almost everywhere. As above mentioned although the Stoat is generally considered the more numerous of the two species, the Weasel is actually so.

It even occurs on some of the islands, for in May, 1900, Mr. O. V. Aplin picked up the bleached skull of a Weasel on one of the Gull Islands off Aberdaron.* There is a possibility, however, that this had been carried there by some bird of prey, for in 1901 I found the skull and fur of a Weasel in the pellet of a Long-eared Owl.

Mr. Ruddy relates how at Llandrillo a Weasel which was being carried off by a Kestrel, turned on its captor, and brought it tumbling to the ground; the Kestrel was dead, but the Weasel ran off unhurt.

Mr. J. Lloyd Williams, of Bangor University, was once fishing in the River Dwyfawr in south Carnarvonshire, when

* *Zoologist*, 1901, 149.

he saw a Weasel take to the water and swim across the river at a place where it was quite ten yards wide.

Dr. Moses in his MS. mentions shooting a Weasel at St. Asaph on 7th November, 1839, in which one of the forelegs was white. A white Weasel is said to have been obtained near Montgomery about 1850.

19.—BADGER. *Meles meles* Linn.

PRYF-LLWYD = Grey Beast ; PRYF-PENFRITH = Stripe-headed Beast ; DAEAR-FOCHYN = Earth Pig ; BYR-HWCH = Short Sow ; MOCHYN BYCHAN = Little Pig ; GWILFRAI = ?

Fairly common in the east ; rarer in the west ; unknown in Lleyn ; occurs in only one locality in Anglesey.

In evidence before the Royal Commission on Land in Wales it was stated that the Badger became extinct in Carnarvon and Merioneth between 1854-7, the last three being killed by a gipsy in Nant Gwynant. An old gentleman living near Bala remembers a Badger being caught at Ruthin some sixty years ago, and at that time it was so rare that the beast was locally supposed to have escaped from a menagerie.

The belief in the rarity of the Badger is widespread and deeply rooted, although the details given below prove that it is erroneous. It arises from the fact that the animal is so shy and strictly nocturnal in its habits that even in places where it is common it is very rarely seen.

The Badger in North Wales is most numerous in Montgomeryshire, and not uncommon in Denbigh and Flint. In Merioneth it is found chiefly in the southern parts ; in Carnarvon along the north and east borders. In Lleyn it is apparently unknown, but the most interesting fact regarding its distribution is that the Badger, like the Fox, is not indigenous in Anglesey. I have made many enquiries on the subject, and

local observers agree in stating that there were no Badgers in Anglesey until comparatively recent times, and even now the animal is only known at one spot, Plas Newydd Park, where there is a large earth that has been established for a good many years. It is supposed that Badgers originally got there by crossing over the Menai Bridge from Carnarvonshire by night. It is quite conceivable that a pair during their usual nocturnal ramble might stray on to the bridge; a vehicle coming on behind them would cut off their retreat, and the timid creatures would run before it to the other side, there to take refuge in the nearest available wooded retreat. Once there and overtaken by daylight, they would not be likely to venture back over the bridge.

Miss Lort, when living at Vaynol Old Hall, near Bangor, had a Badger which she reared from a cub, and which became so tame that it followed her about like a dog. It was very fond of slugs, earthworms, and beetles, catching them by pouncing upon them unawares. As for moles, "Sally" was an expert in the art of catching them. "She first listened along the surface of the ground, and then, having located her quarry, promptly dug down. She would often let herself out from her yard and, incredible as it may seem, she managed not only an awkward latch, but cleverly, while hanging on, pulled the door towards her. When taken out in the morning she followed with great care and caution close to her mistress, while at night her lively tricks were delightful, romping round and round until she was quite out of breath; her puppy-like playfulness never leaving her even when she grew old. When winter came she was more sleepy by day and not nearly so lively by night, feeding only at intervals of two or three days. One paw was almost invariably in a sticky state at this season from her habit of sucking it while asleep."

Captain W. Buckley has found by observation of individuals in captivity, and by considerable experience in trapping, that the Badger is particularly fond of hedgehogs, whilst it also eats moles. It invariably leaves the skin turned inside out,

and the finding of a hedgehog's skin thus treated is a certain sign of a Badger's presence in the neighbourhood.

ANGLESEY. Unknown except in Plas Newydd Park (all observers).

CARNARVON. Not uncommon Bangor (Lort); seen by farmer near Llyn Gwynant in 1904 (Forrest); Conway Valley, several taken in recent years (Hutchinson), and seen in Lledr Valley (Halhed). Scarce Beddgelert; one or two killed in recent years (Evan B. Jones). Said to be many Dolgarrog Woods; seen one in cage caught there (Moore), one killed Carnedd Dafydd in 1890 (*Bygones*, 1890, 378).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*) rare there now; only three taken in last thirty years (Popham). Scarce Ruthin (Steer), Overton (Tower), Llansilin (Lees), Llangollen (Owen), one at Vivod about 1888 (Ruddy), one Coed Coch a few years ago (Russell), an earth four miles from Denbigh (Congreve); occurs Moel Hiraddug (H. Lester Smith), Trevallin meadows, Rossett (Huxley); locally common St. Asaph (Rogers and Wrigley); recorded north of Dee Estuary (Byerley, *Fauna of Liverpool*); one 18½ lbs. killed Llansilin, 22nd February, 1890 (*Bygones*, 1890, 322), Llanarmon, near Mold, in 1900 (Cooke).

MERIONETH. Scarce, but occurs Dinas Mawddwy (Buckley and Steadman), Dovey Estuary (Feilden and Kershaw), Llanfachreth (Pugh), Maentwrog (Morris). Several caught Penmaenpool, 1899 (Bailey); two Garthyngared, Barmouth; last a female, March, 1900 (Rawlings); one Llanwrin, 23rd February, 1895, exhibited in Market Hall, Machynlleth (*Bygones*, 1896, 495).

MONTGOMERY. In March, 1887, four were hunted and caught alive at Glanyrafon, Llanwrglyn, near Llanidloes (*Bygones*, 1887, 270), another at Llanidloes, 5th April, 1889 (*ib.*, 1889, 90), a female and two cubs at Bettws, 1st April, 1892 (*ib.*, 1892, 289). One caught Bodfach, Llanfyllin, March, 1891 (*ib.*, 1891, 55), a male over 20 lbs., Dolarddyn, 16th December, 1896 (*ib.*, 1896, 495) one 18 lbs. trapped Llandegai Hills, March, 1897 (*ib.*, 1897, 46), one 50 lbs. (!) killed Llwydiarth, 4th November, 1897 (*ib.*, 1897, 232). Many near Llanfair Caereinion (Anwyl); a few Llanllugan (Lort), many Trefeglwys; pair and young taken in winter, 1887-88, on Pentremawr Farm, Llanbrynmair (H. Lester Smith). A long-established earth in Llanerchydol Woods, Welshpool (Butterfield and others).

20.—OTTER. *Lutra lutra* Linn.

DWRGI, or DYFRGI = Water-Dog; DYFRAST = She-Otter.

Generally distributed in the lowlands, and more or less common in all counties.

The Otter, although more numerous in some parts than others, may be described as fairly common throughout North Wales up to a moderate elevation amongst the hills.

It is common in Anglesey, although the waters there do not seem well suited to its habits. It frequently occurs on the rivers of south Carnarvonshire, where it is known as the Sea Otter. Eyton mentions one killed near Holyhead while struggling with a large Conger Eel; another was seen on 19th January, 1886, swimming with a Salmon in its mouth across the Menai Straits at a point where they are two miles wide.* Col. Long states that the Otter does very well in Anglesey, where there are many lakes, rivers and bogs, whilst at night it travels boldly, close to habitations, making its way to the shore, probably to fish. From all this it is evident that the Otter is quite as much at home in salt water as in fresh.

Capt. Buckley has several times bolted Otters from large rabbit burrows when ferreting in Merioneth, and Mr. C. Kempster reports the same from Montgomeryshire. He once watched an Otter in the Vyrnwy busily turning up the stones at the bottom of the river in search of eels. On another occasion he was rowing in a boat and came across a pair of Otters with their young: the old ones became "very excited, rearing themselves half out of the water, barking savagely, then diving and coming straight towards the boat." On coming to the place next day he found both old and young had disappeared. There is no doubt that the Otter is very fond of eels, preferring them to any other fish.

* *Field*, February, 1886.

The animal is very common on the Lledr, and in the autumn of 1900 there was a long correspondence in the *Field* as to the propriety or otherwise of trapping it on that river. Many are of opinion that the Otter does far less harm to the Salmon and Trout fishing than is generally supposed, feeding, as it does, so largely on eels, which are at times very plentiful in the same streams.

The pack of hounds at Ynysfor has already been alluded to under the head of "Fox." Other famous packs of Otter hounds in North Wales are the Buckley, now hunted by Mr. Thorneycroft, and the Hon. C. F. Wynn's, at Rûg.

Mr. Wynn has a tame Otter at Rûg, which was brought up from a cub. It is quite gentle with certain people whom it knows, but will not allow strangers to handle it with impunity. When fed with live eels in the tank where it is kept, it catches them in the water with great celerity, nipping each several times across the back to disable it before swallowing it. When running along on the ground its long, lithe body continually moves in sinuous curves. If a fish is held aloft just out of reach, it dances round on its hind legs, balancing itself with its tail.

A fine Otter that was caught alive in the River Camlad, near Churchstoke, Montgomeryshire, was purchased and sent to the Zoological Gardens, London, in 1882.* In the Goat Inn at Llanuwchllyn is a fine specimen which, when killed, weighed twenty-eight pounds.

Captain Buckley once told me of a pathetic incident which happened some years ago when the hounds were hunting on the river near Caersws. An Otter which led them a long chase, when at length overtaken, was found to be a female carrying a cub in its mouth. Quite tired out, it stopped on an islet, dropped the cub, and looked back at its pursuers. The master was so struck by this fine example of maternal devotion that he whipped off the hounds and let her go. The poor little cub, however, was dead—drowned by prolonged immersions in the stream.

* *Bygones*, 1882, 68.

Wild Boar. *Sus scrofa* Linn.

BAEDD COED = Boar of the Wood.

Long extinct.

The Wild Boar is frequently mentioned by old writers as a beast of the chase, but there appears to be no distinct evidence as to the date when it became extinct in North Wales.

Tusks and other remains have been found in numbers in the limestone caves of Denbighshire, whilst tusks have also been found from time to time in various other parts of Wales. These prove that the animal was formerly common here, and it is generally believed to have survived up to the fifteenth or, possibly, the sixteenth century.

21.—COMMON SEAL. *Phoca vitulina* Linn.

*MOELRHON = Bald Tail; MORLO = Sea-Calf.

Met with on the coasts, chiefly in the west; a few resident off Llyn.

To what extent the Seal is resident in North Wales is somewhat doubtful, but the coasts do not offer suitable cover for such an animal except round Llyn promontory and some of the islands. The Welsh name of the Skerries—Ynys moelrhoniaid—signifies Island of Seals.

Examples recorded below from other districts can only be regarded as accidental visitors. There is a remarkable rock called Careg-llan three miles north of Nevin, of which Col. Wynne Finch writes†: “At the base of this rock are caves in which there used to be seals—I have often seen them.” Mr. O. V. Aplin adds that on Ynys Gwylan Fach

* This name is more properly applied to the Porpoise. † *Proc. Chester Soc. Nat. Sc.*, 1893, 241.

there is a deep cleft in the rocks into which the tide runs, where seals are often seen by the fishermen, whilst the animal is well known off Bardsey.

ANGLESEY. Formerly frequently seen Aberffraw (Gosling), Rhosneigr, etc.; one killed about 1898 near Cymyran by Mr. C. Wilkinson (Long), and another by Captain Platt on Puffin Island, June, 1903 (*Standard*); occasional in Menai Straits (Humphreys).

CARNARVON. Occasional in River Conway (*Faunula Grustensis*). One there 25th January, 1882 (*Field*). Another 12th September, 1895 (*Field*, 5th October, 1895); one shot below Llanrwst by Mr. Stanley Griffiths, about 1886, and a young one in 1896 (Halhed), a female appeared 6th December, 1902, and was shot on the 8th; weighed 68 lbs.; contained three herrings and a quantity of shrimps (Delamotte). Scarce Carnarvon (Wynne Williams). Seen at times between Rhiw Point and Aberdaron (C. Ll. Edwards) a few on coast thereabouts (Evan B. Jones). Seen in recent years Bardsey Island and Morfa Bychan (J. Ll. Williams), and some years ago in caves near Nevin (Col. Wynne Finch).^{*} Often seen St. Tudwal's and neighbouring coast of Lleyn (Haigh). Two caught Aberdaron, 1906, and kept alive several weeks North Wales University (Shankland).

DENBIGH AND FLINT. River Conway (see above), Dee Estuary occasional (Byerley, *Fauna of Liverpool*). One caught between Flint Castle and Neston, June, 1887 (*Bygones*, 1887), one below Chester, 11th November, 1905 (local newspapers).

MERIONETH. Occurs on coast but rarely (Haigh), Towyn, (Kirkby); one landed there March, 1897 (local newspapers). Several times seen in the sea off the mouth of the Dysynni—one there in December, 1906 (H. Franklin).

22.—GREY SEAL. *Halichærus grypus* Fabr.

Rare: off Carnarvonshire and Anglesey.

This is a much larger species than the Common Seal, with a flatter and less intelligent-looking head.

Mr. E. Gosling told me he had seen it more than once off Aberffraw, Anglesey. A Grey Seal was shot on 24th May,

^{*} *Proc. Chester Soc. Nat. Sc.*, 1893, 241.

1894, off the coast of Bardsey: it measured fully 7 feet in length and weighed over 5 cwt.* The following year, in July, Mr. G. H. Caton Haigh found one dead on the beach near Afonwen.† Another, 7 ft. 10 ins. long and 5 ft. 8 ins. in girth, was shot on 5th September, 1904, by Mr. Ed. Williams, Cadlan, Aberdaron, on one of the Gull Islands near that place.‡ One was seen swimming close to these islands a few years previously by Mr. Ll. H. Owen Johnes, of Garthmyl, and from his description of its appearance and size there seems little doubt that it was of this species. Another similar occurrence is reported by Messrs. Cummings and Oldham, off Rhoscolyn, Anglesey, in 1904. The skull of a Grey Seal in the Chester Museum was obtained in 1895, off Cymmyran, Anglesey.

23.—SQUIRREL. *Sciurus vulgaris* Linn.

GWIWAIR = Squirrel.

Common in wooded districts up to a moderate elevation.

Owing to its arboreal nature the Squirrel is only found where there are trees. It is common throughout the wooded parts of North Wales, and in valleys amongst the mountains up to an elevation of 1000 feet or so.

In Anglesey it is apparently confined to the belt of woodland which skirts the Menai Straits, this being practically the only wooded part of the island. Similarly in Lleyn it is confined to the few places where there are woods. At Nanhoron, Mr. C. Lloyd Edwards says that Squirrels only appeared about 1872, but now they are numerous.

Where encouraged these pretty animals become very tame. At Llandegfan, Anglesey, where they are plentiful, Mr. J. Rowland says they will descend from the trees and take nuts from the hand.

* *Bygones*, 1894, 350. † *Zoologist*, 1897, 141. ‡ *North Wales Chronicle*, 10th September, 1904.

The following list of articles which the Squirrel has been known to eat, compiled from the observations of many friends, shows that the diet of this animal is very varied, and not exclusively vegetarian: nuts, walnuts, beechmast, haws, acorns, fir cones, sycamore seeds, and Indian corn, leaf-buds, bark, daffodil-flowers, crocus (the entire plant), bulbils of Lesser Celandine, and plantain roots; birds and eggs; cherries, pears, apricots, and strawberries; mushrooms and several other fungi, especially Boleti, including some species reputed poisonous. The Squirrel has also been seen to carry off and eat pieces of bread, etc.

The Squirrel is an early breeder, frequently having young in March and April, whilst a writer in the *Field* mentions finding three dead young at the foot of a tree in February; they had each a wound on the neck, so had probably been killed by a Stoat. I have known a pair of Stoats to be found inside a Squirrel's drey.

24.—DORMOUSE. *Muscardinus avellanarius* Linn.

* PATHEW, or BATHOR = Dormouse.

Generally distributed; common in the east; rare in the west.

This pretty little animal in many of its habits resembles the Squirrel, but is less arboreal, being found in bushes, under-wood, and hedges, rather than in trees.

Its presence in any district is generally betrayed by the rounded nests of grass and honeysuckle bark, placed in these same hedges or bushes, usually fairly conspicuous and often several together in a space of a few yards. Generally the nests are low down, rarely more than six to eight feet above ground. They are not "woven" in the ordinary sense, for, by observations on Dormice in confinement, I have found that each strand is grasped by the middle in the mouth of

* Also applied to the Field and Bank Voles (Caton Haigh).

the animal, which then dives into the nest, and by turning over and over repeatedly lays the strand round the cavity, at the same time smoothing it and rounding it outwards. It will be noticed from this that the method of building is very different from that adopted by a bird.

Most British authorities state that in this country the Dormouse breeds in spring or early summer, but personally I have never come across a brood of young at that season of the year. August and September are most usual. On 23rd September, 1908, Mr. Ruddy was shown some new-born Dormice found by the Misses Robertson at Palè, and I have seen several litters born towards the end of September, whilst Mr. J. Hamer Jones has found one at Bettws, Montgomery, in October. It is possible that the Dormouse litters twice in the season, but to my mind this is doubtful, as I have never heard of young being found earlier than the end of June.

When breeding the doe constructs a fairly large nest for the reception of her family, placing it either in a hedge or in a hazel or other small tree, especially such as are draped with hanging masses of honeysuckle; the buck constructs for himself a separate nest within a few yards. These nests have generally a few dead leaves worked in to make them more snug, but sometimes leaves are entirely absent. On the approach of winter each mouse—young as well as old—constructs a nest in which to hibernate. Such nests are largely composed of leaves, and are placed at the bottoms of hedges or amongst accumulations of dead leaves under banks. I have never known two Dormice to be hibernating in one nest. In the natural state the winter sleep lasts with little interruption from November to April.

In confinement I have found acorns to be the favourite food. Mr. E. Bidwell has seen one nibbling off the flowers of honeysuckle and sucking the nectar from the base.* Mr. R. Newstead relates† how he and Mr. A. O. Walker whilst sugaring for moths at Colwyn Bay, captured a Dormouse

* *Field*, 16th July, 1898. † *Proc. Chester Soc. Nat. Science*, 1893, 248.

which was devouring the sugar placed on a tree trunk to attract moths, 23rd June, 1885.

On one occasion Mr. J. Hamer Jones saw a Dormouse removing her young after being disturbed in the nest; she went slowly along the ground, the young ones clinging to her haunches.

ANGLESEY. Found one once near Dronwy, and several times empty nests in thick hedges near Holyhead (W. Glynne Edwards). Scarce Menai Bridge (Humphreys).

CARNARVON. Very rare Bangor (Lort and Lester Smith); scarce Penmaenmawr (Kneeshaw), Nanhoron (C. Lloyd Edwards); Common Beddgelert (Evan B. Jones).

DENBIGH AND FLINT. Frequent Colwyn Bay (Newstead and Russell), breeds freely at Park Mostyn and occurs elsewhere in these counties (G. T. Rope in *Zoologist*, 1885, 211). Common St. Asaph (Rogers and Wrigley), Mold (Cooke), and Overton (Tower); few, Ruthin (Steer) and Llangollen (Owen), Llanrwst (*Faunula Grustensis*, 1830), plentiful there (Halhed and Popham), and at Nantglyn (Oldham).

MERIONETH. Frequent Palè (Ruddy), Dovey Estuary (Feilden and Kershaw), and Dinas Mawddwy (Steadman), Dolgelley, found in winter nest (Bailey); not very common Machynlleth (Anwyl), never found Penrhyndeudraeth (Haigh).

MONTGOMERY. Occurs in the county (G. T. Rope, *supra*); common Welshpool (all observers), nest found Leighton (Naylor); caught one near Kerry in 1900 (Harrison); occurs Garth (Mytton), Llanerfyl (Harington), Llanllugan (Lort), Carno (Davies), Montgomery (Brown), Bettws (Hamer Jones), Aberhafesp (E. J. Williams). Several taken Montgomeryshire (F. W. in *Field*, 3rd May, 1884).

Black Rat. *Mus rattus* Linn.

LLYGODEN FFRENGIG (or FREINIG) = Fierce Mouse (from Ffyrnig = fierce, but the word Ffrengig is also used to denote something foreign).

Probably now extinct, but formerly found in the west.

From what we know of the history of this species in the neighbouring counties of England, it is reasonable to suppose

that the Black Rat was formerly common throughout North Wales, yet, strange to say, I have no records at all from the three eastern counties.

John Williams, in his *Faunula Grustensis*, mentions both the Black and Brown Rats as being found in the Llanrwst district. Capt. Buckley tells me that in the late seventies and early eighties he caught many of the true Black Rats at Tanybwlech Farm, Dinas Mawddwy. In a letter dated 23rd May, 1901, Mr. E. Gosling writes: "Dick Williams' brother's dog killed the last Black Rat, at the Aberffraw Mill, some twenty-five years ago. W. S. Williams—now deceased—told me he had seen a few specimens previously. I saw the dog kill the Rat, and handled it. It most certainly was an old English Black Rat." When Messrs. Cummings and Oldham visited the Skerries in June, 1905, they were told by the lighthouse men that there were Black Rats there, probably escapes from a wreck. Byerley, in his *Fauna of Liverpool*, 1856, describes the Black Rat as "abundant on shipboard; occasional stragglers ashore."

25.—BROWN, OR COMMON RAT. *Mus norvegicus* Erxl.

LLYGODEN FAWR = Big Mouse.

Common throughout the district.

This sturdy invader seems to have overrun North Wales long ago, for in 1830 John Williams mentions it as occurring in Llanrwst, and he calls it the Norway Rat. It is plentiful now everywhere except on the hill-tops.

In the nineties there were some wild White Rats at a place near Ellesmere, on the Flintshire border.

As bearing upon the fact that neither of the Rats is indigenous in Britain, it is significant that the Welsh have no word in their language for "Rat"—they call it the "Big Mouse."

26.—COMMON, OR HOUSE MOUSE. *Mus musculus* Linn.

LLYGODEN = Mouse. LLYGODEN FACH = Little Mouse.

Very common.

This most familiar of our mammals is common everywhere. It is by no means confined to houses, for it is often exceedingly numerous in stackyards, whilst many inhabit open country.

Occasionally it is met with in most unlikely places; on 9th June, 1904, I came across one on the open moor near Llyn Mynyddlod, Merioneth, at an elevation of over 1500 feet, and miles from any human habitation.

Skulls of the House Mouse are found frequently in Owls' castings, along with those of Field Mice and Voles.

In December, 1905, I received an albino of this species caught in a wild state on a farm at Llansantffraid, Montgomery. It was sent to me by Mr. R. G. Oldfield, who added that several others had been taken there before.

[HARVEST MOUSE. *Micromys minutus* Linn.

LLYGODEN YR YD = Corn Mouse.

Reported in various scattered localities, but no certain record.

Owing to the fact that country people commonly speak of the Field Vole as the "Harvest Mouse" (because they so frequently find it and its nest of young amongst the grass during hay-harvest), the task of determining the status of the true Harvest Mouse in North Wales has been one of no small difficulty. In dozens of instances I have had it reported

as common, but on enquiry have found that the Field Vole was meant.

John Williams, in *Faunula Grustensis*, includes the "Harvest Mouse" amongst the species found at Llanrwst in 1830. As he also includes the Field Vole, the record is possibly correct, whilst it is rendered all the more probable because I am assured by Mr. W. S. Kneeshaw who resides at Penmaenmawr, only a few miles away, that he has seen the Harvest Mouse there on more than one occasion. In 1900 there was a nest in a cornfield close to his house built between the stalks of the wheat in quite the typical fashion. He not only saw the nest but the mice as well, which were very small and of a distinctly red colour.

The Harvest Mouse is also reported from another part of Carnarvonshire, Nanhoron, in Lley, by Mr. C. Lloyd Edwards, who has seen a mouse answering the description, and having a nest built up amongst rushes by a brook. His gamekeeper says that he has seen several in former years about Aberdunant Hall.

No probable reports have been received from Denbigh, Flint, or Merioneth, but several from Montgomery. Mr. E. J. Williams says it is scarce, but that several nests have been found in grass and thistle-stalks at Aberhafesp. Miss Frances Naylor tells me that a nest was found at Leighton some years ago, and Mr. D. G. Goodwin says that nests were seen at Meifod at an earlier date.

It is most unfortunate that none of the nests mentioned above were preserved. The nest is so distinctive of the species that the production of one would be indubitable evidence of the presence of the Harvest Mouse in the district. Until such evidence is forthcoming, or a specimen is captured, the matter must remain doubtful. There is an old nest in Chester Museum, but the locality whence it came is unknown.

Byerley in his *Fauna of Liverpool* describes the Harvest Mouse as "not infrequent in wheatstacks, barns, and fields," but this statement lacks confirmation.]

27.—WOOD MOUSE, OR LONG-TAILED FIELD MOUSE.

Micromys sylvaticus Linn.

LLYGODEN-Y-MAES = Field Mouse.

Common and generally distributed.

This species, easily recognized by its large eyes and ears, long tail, and white feet, is common in all parts of North Wales.

It is an expert climber, and is in the habit of clambering to the extremities of boughs of hawthorn and wild roses, biting off the berries, and carrying them off to some old bird's nest. There it proceeds to bite through the skin and pulp to get at the seeds, which it gnaws at until it reaches the kernel, the only part which it eats. The pulp of the fruit and the gnawed stones accumulate till they completely fill the nest, and I have often found considerably more than half a pint of them in one nest. Sometimes there are acorn-husks and gnawed hazel nuts mixed with the hips and haws, but the gnawed stones are a certain sign that the Long-tailed Field Mouse is not far off. Thus in April, 1901, I found nests filled with gnawed stones in bushes on the moors above Dolwyddelan up to a height of nearly 1000 feet,* whilst the ground below was riddled with mouse-holes. At Llanrwst, lower down, Mr. W. B. Halhed showed me numbers of Wood Mice trapped in his garden, amongst them several of the large yellow-necked variety known as *Mus flavicollis*.

Col. Davies Cooke states that at Mold this mouse sometimes enters and robs bee-hives. On 7th January, 1903, Mr. Ruddy watched one swim a considerable distance across flood-water at Llandderfel. Mr. S. G. Cummings tells me that it frequently sucks eggs, especially those of the finch-tribe, whilst Mr. G. H. Caton Haigh has known it to eat the heads off a nestful of young thrushes.

* Similar observation at Llanarmon, D.C., in March, 1904.

28.—WATER VOLE, OR WATER RAT. *Microtus amphibius* Linn.

LLYGODEN Y DWFR = Water Rat.

Common by water throughout the district, up to a moderate elevation.

The Water Vole occurs throughout North Wales wherever the streams are not too rapid or the country too elevated.

The black variety has been observed at Bettws (Montgomery) by Mr. J. Hamer Jones, and I have a MS. note by the late Mr. W. E. Beckwith of its occurrence in the district around Ellesmere (partly North Wales). I have also been told of one being caught in a garden there a few years ago.

The diet of the Water Vole is almost entirely vegetarian, and I have never seen it eat any but vegetable food, but Mr. J. D. Jones, Rossett, reports seeing one walk off with a small trout that was lying on the grass by a rod within a few yards of the angler. Capt. W. Buckley once found a Heron choked by a Water Vole at Newtown.

The species frequents pools and canals as well as streams, and I have met with it in valleys amongst the mountains at an elevation of about 800 feet, but I do not think it goes much higher than this.

["SMALL RED RAT OF ANGLESEY."—Although I am unable to determine the species, I think the following evidence indicates the existence in Anglesey of some rodent of medium size.

The recent discoveries of undescribed species of voles on Skomer and in the Orkneys make it at least possible that the "Small Red Rat of Anglesey" is a vole of some kind.

The first intimation I received of the animal's existence was from the late Mr. Edwin Gosling in May, 1901. He writes that a little bay near Aberffraw used to be "inhabited by a colony of Red Rats, smaller than the common rat, said to have come from the wreck of a foreign ship a great many years ago. They lived on the shore-crabs, etc., and were never known to go to the farms. They were very plentiful there forty years ago, and in reduced numbers less than twenty years back, and could always be seen on the rocks

searching for crabs and shell-fish in the evening when the tide was out."

I made enquiries about these animals when visiting Aberffraw in May, 1902, but could neither see nor hear anything of them. Commenting on this, Mr. Gosling writes: "I have little doubt that the small rats were destroyed by the common brown rats. . . . Many years ago I asked a friend to send one on my account to the *Field*, but he shot one of the first (brown) rats he met with, and, in consequence, I got sat upon by the editor, which much annoyed me, as the red ones were at that time common on the shore by the old lime kiln."

One day in April, 1903, I was standing with a companion on the top of a cliff in Bull Bay, near Amlwch, when the latter caught sight of a rat running across a rock covered with seaweed. On going down to the edge of the sea, he found it crouched in a recess in the rock, when he observed that it was of a decided red colour, and smaller than the common rat. He struck at it with his stick, but the animal dived into the sea and escaped.]

29.—FIELD VOLE, OR SHORT-TAILED FIELD MOUSE.

Microtus agrestis Linn.

LLYGODEN GYNFFON BYR = Short-tail Mouse.

Common throughout the district.

Although not always distinguished by observers from the Bank Vole there is ample evidence that the Field Vole is common and generally distributed throughout the lowlands of North Wales. To what elevation it occurs is uncertain, but probably its range does not much exceed 1000 feet.

30.—BANK VOLE, OR RED FIELD VOLE. *Evtomys glareolus* Schreb.

Generally distributed.

Owing to its resemblance to the Field Vole the Bank Vole is rarely distinguished from that species. It may be determined

by its redder fur, proportionately longer tail—a third of the total length—and by the molar teeth having the angles of the folds in their crowns *rounded*—in the Field Vole these are pointed. Specimens received from the neighbourhood of Bangor show much less of the rufous tint than usual, whilst the underparts are very dusky. A large one sent by Mr. Lort in September, 1904, had been caught in a cupboard at Vaynol Old Hall; it measured $5\frac{3}{4}$ inches in total length, of which the tail accounted for $1\frac{3}{4}$ inches.

Examples from the Bala district are very different in colour, being bright rufous above, clear yellowish-white beneath.

Mr. G. H. Caton Haigh reports this species as exceedingly abundant round Penrhyndeudraeth in wood and garden, often doing much damage.

Several examples of a melanistic variety have been taken at Ellesmere, just beyond the borders of Flintshire. One of these is in Shrewsbury, and another in Ellesmere Museum.

ANGLESEY. One trapped, Cemmaes, 1895; very abundant on the ivy-clad railway bank at Llanfair, P.G.; also at several places between Garth Ferry and Penmon; several trapped, Moelfre, in May, 1903 (Oldham); several trapped Rhosneigr, 1905 (Coward).

CARNARVON. Received several for identification from Mr. L. F. Lort, Bangor (Forrest); occurs Nanhoron (Edwards); Penmaenmawr (Kneeshaw); Conway (Moore); Deganwy (Hutchinson); abundant Portmadoc district (Haigh).

DENBIGH AND FLINT. Trapped at Colwyn Bay, 1897; skulls in Barn Owl pellets at Old Colwyn, 3rd March, 1907 (Oldham); frequent, Llangollen (Ruddy).

MERIONETH. Bala district: apparently more numerous than the Field Vole (Ruddy); abundant round Penrhyndeudraeth (Haigh).

MONTGOMERY. Skulls in Owl pellets from Welshpool, but much less numerous than the Field Vole (Forrest).

Beaver. *Castor fiber* Linn.

LLOSTLYDAN = Broad-tail; AFANC = Water-monster.

Extinct; formerly occurred in Carnarvonshire (and Montgomeryshire?).

The evidence of the former existence of the Beaver in North Wales is purely documentary, no actual remains having ever been found.

In the laws of Howel the Good, *circa* 940, A.D., the price of a Beaver's skin is given as one hundred and twenty pence—a very large sum in those days, so that the animal must have been scarce then; the beauty of the fur would, however, enhance its value to some extent.

During the ensuing two hundred years the Beaver appears to have become extinct in North Wales, for Giraldus Cambrensis in 1188 writes of it as then found only in the River Teivy (South Wales). Most quaint and wonderful are the stories he tells of this animal; for example he writes thus:—

“The Beavers, when they construct their dam in a river, make use of slaves belonging to their own species, *as wagons*; they collect and carry the pieces of wood they employ from the forests in a very curious way; some of them whom Nature has marked out for slaves, tuck in their legs, lie on their backs and allow the wood cut by their companions to be laid on their bellies; they then take a stick crosswise between their teeth, whilst the others, holding on to this, drag them and their burdens along, to the wonder of all beholders! Badgers make use of a similar plan when excavating their burrows. In both classes of animals the slaves may be recognised by a certain natural deformity, their backs being scraped bare of fur.

“Beavers choose a deep and tranquil reach of the river for their ‘camp,’ and unite the separate pieces of wood so cleverly

that not a drop of water can penetrate it, nor is it disturbed by the heaviest freshets. They need fear no violence but that of man, and even he must bring a mattock to his aid. The walls of their building are bound together by withies, and they make a detached tower, floor above floor, with passages from one to the other, the top story being above the level of the highest floods, and serving them to watch the rising of the water. Their object in using the willow is that it may throw out branches year by year, so that the house may look like a thicket, and thus hide the artificial interior.

“Like toads and seals, Beavers can breathe under water as well as in the air They have tunnels in the bank near the dam, and secure lurking places above the water level ; when the hunter tries to pierce through into these with a sharp stake, the animal hears the blows, and in fear of violence, betakes himself at once to the security of the dam, but first, sitting on the bank at the entrance to the tunnel, he blows through the water, at the same time scratching up the mud with his feet, so as to render the stream muddy and opaque ; thus he pits cunning against cunning, and deceives his foe, who is watching for his dive with an iron prong in his hand. But in eastern parts, where dogs are used to follow it by the scent, and he sees no means of escape, the animal, that he may save the whole of his body by the sacrifice of a part, and being aware what part of him is wanted for medicinal use, castrates himself in the sight of the hunter ; hence he is called *Castor*.” Giraldus continues to discourse in this strain, but the passages which follow, though most quaintly amusing, will hardly bear printing in English !

David ap Gwilym (fourteenth century) refers to the Beaver in one of his poems as if he had seen it at work.

The Beaver has left traces of its former existence in several place-names. Thus, a quiet reach of the River Conway at Bettws-y-coed is called *Llyn-yr-afanc* (= the Beaver's Pool), whilst on the Severn, near Llandinam, Montgomeryshire, is a similar stretch of water which bears the same name. The pass of Nant Ffrancon is also said by some etymologists to

signify Vale of Beavers. Pennant writes,* "In one part it is called Sarn yr afange, or the Beaver's Dam, another proof of the existence of those animals in our country." The word Afanc in old Welsh was applied to any water-monster, such as the mythical Dragon. In Breton it is almost identical—Afank.

31.—COMMON HARE. *Lepus europæus* Pallas.

CEINACH = Hare ; YSGYFARNOG = Long Eared ; GAD = Quitting ; GLAS TORCH = Blue Collar (Leveret) ; PRYF = Ground Game.

Generally distributed, but not common everywhere.

The Welsh names of the Hare are interesting; the third evidently alludes to the animal's habit of quitting its form when alarmed. The name given to the leveret is strange; for it has not a blue collar, nor anything of the kind, the colour of the fur being reddish, like that of the parent. The word "Glas," however, may signify "young."

Authors differ greatly in their statements regarding the number of young produced in one litter, whilst sportsmen and farmers are almost unanimous in stating that they never find more than two (or at most three) leverets together. Yet there are well-authenticated instances of the finding of five, six, and even seven newly-born young together.

This mystery was cleared up by the late Mr. J. F. M. Dovaston, of West Felton. He had a piece of grass land near the house wired in, and turned a number of Hares into the enclosure. Here he was able to observe them under perfectly natural conditions. He found that when the doe littered she usually had five leverets; but directly afterwards she carried them off and deposited each in a separate place in the paddock, afterwards visiting each in turn to suckle it.

* *Tour in Wales*, III., 106.

If this be the regular habit of the Hare—and there is no reason to doubt it—the truth appears to be that, although only one or two leverets may be found with the mother (except when discovered immediately after birth), the actual number in the litter is generally five, occasionally four, six, or even seven. If confirmation were required, it may be added that on several occasions five unborn young have been found within a doe Hare.

From repeated observation in North Wales, I find that in hilly country the Hare exhibits a decided preference for high rather than low-lying land, and it occurs up to a considerable elevation on the mountains, perhaps even over 2000 feet. Its relative abundance or scarcity in different districts depends not so much on physical as artificial conditions—whether it be preserved or killed off by man. Under the Ground Game Act it has within recent years become scarce or altogether vanished from districts where it was formerly common. Still, on the whole, it may be considered fairly numerous throughout the district.

In the mountain country many of the leverets fall victims to the hill foxes.

The late Dr. Moses, referring to the St. Asaph district, says that Hares are “frequent on the sandhills, to which they come in tempestuous weather to seek shelter.” Captain Buckley noted that in the Bala district many Hares perished in the severe frost of February, 1895.

32.—MOUNTAIN, OR BLUE HARE. *Lepus timidus* Linn.

Fairly common on some mountains in north Carnarvonshire; introduced also elsewhere.

The Mountain Hare appears to have been established in the Llanwrst district at least seventy-five years ago; for John Williams writes of it in his *Faunula Grustensis* (1830), “The *Lepus variabilis* is common at Eidda, near Yspuddy.” It still

occurs in the neighbourhood in considerable numbers, and seems to flourish—for Mr. W. B. Halhed states that several have been shot of heavy weights in recent years. The Mountain Hare was introduced into the Snowdon district, about 1880, by Lord Penrhyn, and has multiplied and spread over the country to a considerable extent.

As is well known, this species turns white in winter, and whilst the mountains are covered with snow it is thus rendered inconspicuous. As soon, however, as the snows melt, its white colour becomes the reverse of protective, and many observers report having seen white hares in spring on the hillsides above Conway, Trefriw, Penmaenmawr, and inland on the Glyders and elsewhere.

Mr. J. A. Bucknill reports that some were turned down near Dolwyddelan, where white ones are seen occasionally—two in 1900. Mr. J. Steer says there are a few on the mountains near Ruthin. Mr. J. H. Wrigley states that Sir Watkin Wynn has turned out a large number of Scotch or Blue Hares on his estate by Bala Lake, whilst Mr. Lort introduced them in the eighties at Llanllugan (Montgomery); they disappeared, however. One was killed at Meifod, many miles away.

33.—RABBIT. *Lepus cuniculus* Linn.

CWNINGEN = Rabbit (Query: akin to “Coney”); FFIOPEN = Rabbit.

Common everywhere.

The rabbit is abundant in North Wales as everywhere.

Black and white varieties are of frequent occurrence in the wild state. I have seen several of the former in Anglesey and on St. Tudwal's Isle; but Mr. G. H. Caton Haigh informs me that black, coloured, and long-haired tame rabbits had been turned down on the last-named island.

It is remarkable how almost all the islands, even small ones, are tenanted by rabbits, whilst apparently inaccessible turfey ledges on the cliffs are often occupied by flourishing little colonies. Pennant mentions finding rabbits on the Skerries (*Tour*, 1810, ed. III., 59).

Red Deer. *Cervus elaphus* Linn.

CARW = Stag; CYLLAIG = A Stag "in season."

Kept in certain parks semi-domesticated; survived in the wild state till the eighteenth century.

Red Deer are kept in the following parks:—Vaynol, Bodelwyddan, Nannau, Kinnel (Mostyn), Llanerch, Powis, and Wynnstay.

In the tenth century the skin of a stag in Wales was valued at 8d., the same as that of the Wolf, Otter, and Fox. At that time the animal was probably common and generally distributed. The author of *Faunula Grustensis*, writing of Llyn y Parc, near Bettws-y-coed, says (p. 23), "This Parcrhisglog was formerly covered with wood and fine deer; but now it is full of their rotten remains—turberies." He further says (p. 27) that the Vale of Conway was "formerly the richest deer-forest in Wales." Leland gives a list of mountain valleys where the best timber was found, and adds that there was "very little corn except oats in some places, and a little barley, but scanty rye; if there were, the deer would destroy it."

In *Bygones*, 1886, p. 58, there are several extracts from the reports of an old law case, tried in May, 1586, concerning certain lands in Carnarvonshire, alleged to have been common lands. Amongst the evidence are several statements showing that in Queen Elizabeth's time Red Deer were quite common in the wilder parts of Carnarvonshire. They seem to have

lingered there up to the early part of the eighteenth century, or possibly later.

In the Appendix to the *Tour* Pennant prints copies of two warrants for "a stag out of Snowdon Forrest," dated 4th July, 1558, and 14th August, 1561.

Mr. A. B. Priestly possesses a Royal Warrant for killing a stag on the Forest of Snowdon, dated 1565. He adds that he knows of at least two genuine Welsh Red Deer's heads preserved in the district.

Captain Buckley states that Mr. C. E. Breese, solicitor, Portmadoc, and Mr. Owen Roberts, painter, Barmouth, possess antlers. Mr. F. C. Rawlings writes that "horns of the Red Deer have been very frequently dredged up in the estuary at Barmouth by the salmon nets. A very good pair recently washed out from the peat above Llanaber by a big tide are very different from those of deer of the present day, the brow-tine being excessively long." Mr. O. V. Aplin has the upper part of what must have been a very fine antler, which he picked up on the point at Mochras. Antlers have also been found in peat on the Dovey Estuary and in the Glaslyn by salmon netters. In 1903 a number of antlers were found in the submerged forest on Rhyl sands.

Mr. Jenkins, of Bodwenni, near Llandderfel, told Mr. Ruddy that an ancestor of his, Robert Evans, who was High Sheriff of Merioneth in 1783, shot a wild stag on the hills to the south of Bala.

Traces of the Deer still survive in many Welsh place-names, such as Rhyd-y-carw (the Stag's ford), near Caersws, Montgomeryshire. Concerning Cwm Bychan, near Harlech, Pennant states in his *Tour* that "Deer formerly abounded in these parts, nor had they then (1773) been long extinct. A person of the last generation informed his host that he had seen eighteen at once grazing in the meadow." He adds some quaint details regarding the ancient usages of the chase in Wales, and says that the Welsh "held the flesh of the Stag, Hare, Wild Boar, and the Bear to be the greatest delicacies amongst the beasts of the chace . . . The penalty



CWM BYCHAN Historic Haunt of the Red Deer.

Photographed by A. G. LAWSON.

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for killing a tame stag of the king's was a pound, and a certain fine; if it were a wild one . . . 160 pence. A Stag was also reckoned equivalent to an ox, and a hind to a well-grown cow." Pennant mentions further a place on Snowdon "called Bwlch-y-saethau, or the Pass of the Arrows, probably a station for hunters to watch the wanderings of the Deer."

34.—FALLOW DEER. *Cervus dama* Linn.

HYDD DANAS; BWCH-DANAS = Fallow Buck; GAFRDDANAS = Doe; EWIG = (Cornish Ewic, deer).

Not indigenous; kept in a semi-domesticated state in parks.

The Fallow Deer does not appear to have been introduced into North Wales until comparatively recent times. Except for occasional escapes, it is known only as a park animal kept at Bodorgan and Penmon Parks, Anglesey; Vaynol, Nannau, Kinnel, Llanerch, Tanybwlch, Wynnstay, Powis, and a few other places.

Roebuck. *Capreolus capreolus* Linn.

IWRCH.

Appears to have become extinct locally long ago, leaving no traces.

In the days of Howel the Good (about A.D. 940) the price of a Roebuck's skin in Wales was only one penny. Even allowing for the much higher value of money in those days, this seems to show that the animal was numerous then, and the skin held in little esteem.

The Roe is essentially a woodland species, and it probably gradually disappeared along with the extensive forests which sheltered it in days of old. These, as mentioned in the introduction, formerly covered the greater part of the

country, and were only cleared off in the course of two centuries or longer.

Considering how numerous the Roe was originally, it is strange that it has left so few traces behind it. Antlers or skulls have been found on the English border, but I have been able to ascertain only a single instance of such remains being found in the west—a head found about 1880 in a cave at Garreg-y-Bengam, and at first preserved at Ynysfor, but subsequently lost.

The Roedeer in Vaynol Park were introduced by the late Mr. G. Duff Assheton-Smith in 1874-75.

Pennant in his *Tour* (1810 Ed., p. 37) mentions remains of Stags and Roebucks found at Mold.

35.—BOTTLE-NOSE WHALE. *Hyperoodon rostratus* Mull.

MORFIL = Sea Beast; MORFARCH = Sea Horse.

Occurs from time to time on the coast—most frequently in the north.

This is the species of whale most frequently met with on the British coast; but it is far less common on the western than on the eastern or southern coasts of Britain.

On this point Mr. Thos. Southwell, well known as a specialist on the group, writes:—"North Wales appears to be singularly devoid of cetaceans. I take it that as they come up on their northward migration in spring, a portion are deflected eastward by the projecting coasts of Cornwall and Devon, or the south-west coast of Pembroke, and few pass up St. George's Channel. The main eastern stream of migration passes through the English Channel, and northward along the east coast. The same thing happens on the autumn migration southwards, a portion passing along the east coast, but the bulk probably travel by the western route and do not as a rule pass through the Irish Sea, but keep to the westward of Ireland, a few, however, straying up as far

as the Belfast Lough on the Antrim coast. Of course, they are greatly influenced in their movements by the shoals of mackerel, pilchards, herrings, etc., which form their food, and which they follow. Some species, such as the *Hyperoodon* and, in perhaps a less degree, the White-beaked Dolphin, go far north in the summer to reproduce their kind, and return with their young in the autumn."

Six examples of the *Hyperoodon* have been recorded in the Dee Estuary, as well as three in the Mersey,* viz.: one twenty-four feet long in the Dee, below Chester, October, 1785; three on the East Hoyle Bank, September, 1839, 1850, and August 25th, 1853; and one at Little Meols, 1854. Of one specimen, recorded by Byerley as a male twenty-one feet long, on the East Hoyle Bank, 25th August, 1853, it is added: "For three weeks afterwards another—supposed to be its mate—frequented the neighbourhood, but was not secured."

Commenting on these nine records, Mr. Southwell remarks: "What I said will apply, perhaps in a less degree, to the estuary of the Dee and the coast of North Wales, to the few which have passed the narrow channel between Ireland and Scotland when going south. The occurrences are just what might have been expected—one going north in April; *six* going south end of August to October (of the other two the dates are not given). The male twenty-one feet long, alluded to above, would doubtless be accompanied by its *mother*, not its mate. I never knew or heard of an old male occurring in our seas: their return journey is accomplished by some other route, probably further to the westward."

Pennant mentions two, measuring respectively twenty-seven feet and eighteen feet, that were stranded on the sands at Aber in 1799.

In the *Zoologist*, 1878, p. 13, is a full account, with measurements, of a female Bottle-nosed Whale which was killed in the Menai Straits, 15th September, 1877. It was twenty-four

* Coward and Oldham, *Zoologist*, 1895.

feet long, and was accompanied by two others, which the writer, Mr. Henry Lee, conjectures might be the male and young.

A small one was cast ashore at Carnarvon a few days later, but was not identified.

Of the following whales the species was not ascertained: a small one, fourteen feet long, captured after an exciting chase below Menai Bridge in 1888*; a large one, thirty feet long, stranded at Portmadoc early in July, 1888†; and a female of similar dimensions, which came ashore at Aberdaron early in July, 1890, and shortly afterwards gave birth to a young one.‡ Mr. Gosling and other observers report having seen whales off Anglesey and elsewhere at times; but the species, of course, could not be ascertained.

The most recent occurrence of *Hyperoodon* was an example recorded by Mr. G. H. Caton Haigh as having come ashore in the Traethbach in September, 1898.

36.—PORPOISE. *Phocæna phocæna* Linn.

MOELRHON = Bald Tail (RHON, perhaps = Irish RÔN = Seal); LLAMIDYDD = Jumper; MORHWCH = Sea-Sow; PYSGODYN-DU = Black-Fish.

Common off all coasts.

Schools of porpoises are to be seen at almost all parts of the year, and all round the coasts of North Wales.

Mr. G. A. Hutchinson states that they especially affect the neighbourhood of the Orme's Head during the winter months, and are then often very numerous. They are sometimes seen in the Conway River as high up as the town, and frequently pass along the Menai Straits. A *solitary* porpoise stayed about the Little Orme's Head Quarry Pier all through the early part of 1903.

* *Bygones*, 1883, 335.

† *Shrewsbury Chronicle*, 13th July, 1883.

‡ *Bygones*, 1890, 413.

37.—WHITE-BEAKED DOLPHIN. *Lagenorhynchus albirostris* Gray.

Obtained once in the Dee Estuary.

In the *Annals and Magazine of Natural History*, 1863, 236, Mr. T. J. Moore records the occurrence of a specimen of this Dolphin, nine feet long, at the mouth of the Dee, on 29th December, 1862. It is in the Brown Museum, Liverpool. Mr. Thomas Southwell remarks: "This was an altogether abnormal occurrence, both as to locality and season, indicating, I think, that the individual in question was quite out of its bearings."

38.—GRAMPUS. *Orca orca* Linn.

MORFOCHYN = Sea Pig.

Recorded in the Dee Estuary and off west Anglesey: rare.

Mr. T. J. Moore, in his Report on the Seals and Whales of Liverpool Bay (III., 270), records a Grampus, about twenty-five feet long, stranded at the mouth of the Dee, at the end of March, 1876. This appears to be the only example actually obtained in the district, but Mr. E. Gosling told me that one day when he was fishing near Aberffraw, Anglesey, a grampus passed quite close to his boat—within five yards.

39.—DOLPHIN. *Delphinus delphis* Linn.

DOLFFIN.

Of rare and irregular occurrence.

Pennant states that in 1793 Rev. Hugh Davies examined nearly a dozen of these animals that were cast ashore near Carnarvon. He gives details as to their teeth.

Mr. E. W. Badger informs me that he saw a Dolphin off Clynog, about 1899.

Messrs. Coward and Oldham record in the *Zoologist*, July, 1895, two Dolphins stranded at West Kirby, 17th February, 1893. The smaller of the two is preserved in the Brown Museum, Liverpool, and when taken was quite vigorous, and lived till the next day. Several years earlier Mr. A. O. Walker records a school of what he believed to be Dolphins, which crossed Colwyn Bay, "spouting" as they went, and frequently leaping out of the water.

40.—BOTTLE-NOSED DOLPHIN. *Tursiops tursio* Fabr.

Several occurrences in the west.

Mr. T. J. Moore, in his Report on the Seals and Whales of Liverpool Bay (III., 275), gives a detailed account of the stranding of a school of these animals on 14th April, 1866, near Valley, Anglesey. Fifteen or sixteen were captured. They measured from ten to eleven feet in length, and when examined some days later, all that were recognisable proved to be males. Their stomachs contained the remains of fish and whelks, but no shells of that mollusc.

Professor White has the skull of one captured in the Menai Straits.

Mr. G. H. Caton Haigh reports that in the spring of 1905 a dolphin, which he had no doubt was of this species, came up the Traeth Mawr for a considerable distance. He adds that it is not uncommon on that coast, and that he sees it every year, sometimes in numbers.

THE BIRDS OF NORTH WALES.

Two hundred and seventy-two species of birds are enumerated in the following pages as having occurred in North Wales, but of these twenty-two are recorded on doubtful evidence or are not regarded as strictly British species. Ninety-three are residents, fifty-two winter visitors, thirty-eight summer migrants, seventeen occur chiefly on passage in spring and autumn, whilst forty-seven have occurred accidentally, and three are extinct locally. Of the total more than one-half—to be exact, one hundred and forty-three species—have been known to breed in the district.

The classification and nomenclature adopted are those used by Mr. Howard Saunders in the second edition of his “Illustrated Manual of British Birds.”

1.—MISTLE THRUSH. *Turdus viscivorus* Linn.

PEN-Y-LLWYN = Chief of the Grove; TRESGLEN = Screech;
 Y FRONFRAITH FAWR = The Great Thrush; SGRECHGI =
 Screecher; SGRÂD Y COED = Wood-Screecher; CASEG Y
 DRYCIN = Foul-weather Bird (= "Storm-cock").

Generally distributed except in very mountainous districts; increasing.

Although not so numerous as the Song Thrush or Blackbird, the Mistle Thrush is reported by observers in almost all parts of North Wales as more or less common, whilst in several districts it is on the increase.

It is most numerous in the lowlands, but during summer frequents moors and hillsides to a very considerable elevation. On more than one occasion I have found the nest in mountain gullies over one thousand five hundred feet above the sea. On the approach of winter, however, all the thrushes desert the bleak uplands and resort to warmer quarters along the seaboard. For instance, parties of thrushes are frequently seen by Mr. W. B. Halhed passing in autumn down the Conway Valley towards the sea.

Throughout the winter Mistle Thrushes are more or less gregarious, roving about in parties from place to place in search of food. They are particularly fond of the beautiful clustered berries of the mountain ash, which they devour greedily, driving off the other weaker birds in search of the same dainty, and even compelling such big strong species as the Wood Pigeon to retreat. This aggressive disposition has earned for the bird the title "Pen-y-llwyn."

Despite its apparent strength the Mistle Thrush suffers more severely in hard winters than species seemingly weaker. In the severe frost of February, 1895, I found a large number of thrushes frozen to death; of these the Redwing was the most numerous, but the Mistle Thrush ranked

next and outnumbered both the Song Thrush and the Blackbird. Perhaps one reason for this is that the Mistle Thrush, unlike the Song Thrush and Blackbird, does not become sufficiently tamed by hunger to approach human habitations in search of food. !

The nest is frequently found in North Wales on rock ledges amongst the mountains, or on the sides of railway cuttings and quarries, or even on sea-cliffs. Mr. S. G. Cummings found a nest, 28th May, 1901, in a hole in the gable of a ruined cottage at Rhosneigr, and on 2nd April, 1902, a nest in a cliff overhanging the sea at Bull Bay, built of grey lichens and seaweed—hardly to be distinguished from the surrounding lichen-covered rock. The Rev. E. U. Savage saw a nest in 1905 built in the crosstrees of a sloop in Abersoch Harbour.

In the *B.A. Migration Reports* this species is rarely mentioned as distinct from other thrushes, but it is noted as migrating along the Merioneth coast in 1884, October 14th, and following days, as also on 9th April, 1886; also at the Dee L.V., 31st October, and Carnarvon Bay L.V., 23rd November, 1886.

2.—SONG THRUSH. *Turdus musicus* Linn.

Y FRONFRAITH = Mottle-Breast; CRECER = Chatterer.

Common in suitable country throughout the district: leaves the uplands in winter.

The Song Thrush is very common in all suitable country throughout North Wales, and during summer many are to be found nesting at a considerable elevation on the moors and mountains. On the approach of winter these last retire to a lower level, or migrate elsewhere.

Mr. Rawlings states that in the Barmouth district the thrushes do not leave in winter, but, on the contrary, are much more numerous at that season; he supposes that they

move from the uplands to where food is more plentiful, for during hard frost the Thrush is one of the commonest birds along the shore. In Llyn, too, Mr. Aplin observes that although in summer it is less numerous than in most parts, it is more common in winter. He adds that in south-east Anglesey the Song Thrush is more numerous than in any other part of Wales. One May forenoon every grass field he looked into was dotted over with feeding birds; in February also it was very common.

Mr. Butterfield remarks that in the upper Severn Valley its numbers during winter fluctuate owing to fresh arrivals and departures. No doubt many of these come from a distance, but I am inclined to think that the Thrushes in the smaller exposed valleys among the hills quit these only when they begin to feel the pinch of wintry weather, and seek the shelter of the warmer more wooded valleys below. This applies especially to such districts as the parts of Montgomeryshire traversed by the River Severn, because on all sides it has numbers of smaller valleys opening into it. It does not apply to the upper Dee Valley, which has few such feeders.

Dr. Russell observes that at Colwyn Bay in severe weather the Thrush resorts to the shore to feed on the periwinkles and other shell fish, smashing the shells on a favourite block of stone just as it does with snails inland.

In misty weather Thrushes are frequently met with at the lighthouses round North Wales, chiefly in October and November, March and April. Both sexes migrate together, and generally in company with other species.

In 1902, Messrs. Coward and Oldham found nests on Puffin Island, although it is devoid of trees, and I have several times found the nest on rocky ledges, whilst in the *Field*, 28th April, 1860, is a record of four nests found on the ground at Rhyl. In April, 1903, Mr. Hutchinson found a thrush at Deganwy sitting on a nest and four eggs of the Blackbird—an incident not without precedent; *cf. infra* p. 71.

3.—REDWING. *Turdus iliacus* Linn.

COCH DAN ADEN = Red under Wing ; TRESGLEN GOCH = Red Thrush ; ADERYN ADEIN GOCH = Red-Winged Bird ; ASGELL GOCH = Redwing.

Winter migrant, common in lowlands, especially on the coast.

The general status of the Redwing in North Wales is given under the head of the next species.

It seems to arrive in the district with great regularity ; for on Sealand it was noted 17th October, 1903, 18th October, 1904, and 20th October, 1905, by Mr. Cummings. It generally departs by the end of March, somewhat earlier than the Fieldfare.

The Redwing suffers more than other thrushes during very cold weather, many perishing whenever there is long-continued frost. Thus, in February, 1902, Mr. G. A. Hutchinson picked up seventeen in the woods between Llanrhos and the Little Orme's Head, as well as many Fieldfares and Thrushes. The reason for this appears to be that the Redwing cannot exist on an exclusive diet of berries ; for I have known instances of its being found dead with the crop full of berries.

In the *Zoologist*, 1861, p. 7427, Dr. Henry L. Saxby describes a nest which was found at Maentwrog in May, 1855, and which he believed to be that of a Redwing. Mr. Howard Saunders informs me, however, that he has seen the eggs, and that they are undoubtedly those of the Blackbird. The Song Thrush has been known to usurp the nest of the Blackbird, and to incubate the eggs of the rightful owner, and this supposed nesting of the Redwing was, perhaps, an instance of such usurpation.

4.—FIELDFARE. *Turdus pilaris* Linn.

SOCAN EIRA = Snow Wallower; ADERYN YR EIRA = Snow Bird; BRONFRAITH YR EIRA = Snow Thrush; CASEG EIRA = Snow-ball; SOCAS LWYD = Grey Wallower.

Winter migrant, common in lowlands, most numerous inland.

The Fieldfare and Redwing generally reach our shores from their northern quarters about the same time; but the guttural notes of the former cause its presence to be noted more readily than that of the more silent Redwing.

The Fieldfare generally arrives towards the end of October or during November, departing again by the end of April. In 1902 Mr. T. Ruddy saw three at Palè on 14th September—an exceptionally early date. The latest date to which they have been known to stay in North Wales is 8th May, at Penrhyndeudraeth.

As regards relative numbers, the Fieldfare is apparently more numerous than the Redwing inland; but on the coast the reverse is the case. As a rule, the Fieldfare is more numerous in severe than in mild winters; but it seldom visits Anglesey or Lleyl in numbers. Professor Salter remarks that on the west coast, during winter, the presence or absence of Fieldfares is always an exact indication of the weather inland. All through January, 1905, with snow inland but none at the coast, there were unusual numbers of them, whilst the fields were full of Larks, Chaffinches, and other small birds.

A heavy snowfall on the highlands of Carnarvon and Merioneth would naturally drive the birds to the coast.

5.—BLACKBIRD. *Turdus merula* Linn.

ADERYN DU (Cock) = Blackbird; MWYALCHEN (Hen); ADERYN DU PIG FELEN = Blackbird with Yellow Beak; MERWYS = Blackbird (used only in poetry).

Plentiful everywhere, even on mountain sides and some islands.

The Blackbird is certainly the most abundant of the thrush

tribe, and its fondness for fruit makes gardeners view it with disfavour. Still its handsome appearance and beautiful song go far to make amends for its depredations, so that as a rule its delinquencies are winked at.

Large numbers are met with at the lighthouses, generally at night; the principal flights take place during October and March; fifty were killed at Bardsey Lighthouse, 20th October, 1886, whilst a few were seen at the Carnarvon Bay Lightship at noon, 20th November, 1884. Mr. Caton Haigh, too, reports that at Penrhyndeudraeth large migratory movements often take place at the commencement of severe weather.

Despite these movements the Blackbird does not appear to be migratory to any appreciable extent inland, or at any rate far less so than the other thrushes. This is especially noticeable in winter, when the more exposed districts are devoid of all the species except the hardy Blackbird. In proportion to their numbers, how rarely do we come across Blackbirds frozen to death, compared with the other thrushes that succumb. When the ground is covered with snow the Blackbird may be seen at the foot of some hedgerow, hard at work,—scratching with its feet, and flinging the snow to right and left with its wings, until the earth beneath is laid bare; this it does apparently in order to reach food—perhaps buried larvæ or the bulbils of the Lesser Celandine.

Pied cock Blackbirds in which the head, head and neck, or the whole plumage, are more or less white, are of frequent occurrence, particularly in Montgomeryshire, though pied hen birds are rare. In 1890 a male of a yellowish buff colour was reared from the nest, and kept as a cage bird by Mr. Solloway, Llangollen.*

On the 18th August, 1900, Mr. C. Kempster, Llansantffraid (Montgomery), observed a Blackbird catch a small fish at the edge of a stream, and eat it after battering it to death against a stone, after the manner of a Thrush with a snail. The weather was hot and dry, the ground hard, and worms probably scarce; hence the bird adopted a fish diet. In

* *Bygones*, 1891, 62.

May, 1901, Mr. Cummings observed a pair nesting near the top of a lofty sycamore in the Ceiriog Valley; he also found there two nests containing blue unspotted eggs, 31st May, 1896.

He remarks that nowhere is the Blackbird more abundant than in Anglesey, where it often nests in the rocks on the coast, whilst on Bardsey Island—although nearly devoid of trees—the species was found by Mr. Aplin to be very common and tame. Mr. C. S. Meares noted it as common on the moors above Llanarmon-D.-Ceiriog at a great elevation, in May, 1905.

6.—RING OUZEL. *Turdus torquatus* Linn.

MWYALCHEN Y GRAIG = Rock Blackbird; MWYALCHEN Y Mynydd = Mountain Blackbird; Y Fwyalchen Fronwen = White-Breasted Blackbird.

Summer migrant, common on moors and mountains; almost unknown in Anglesey.

This is one of the most characteristic birds of North Wales, and from early April onwards its sweet wild notes may be constantly heard ringing out across the heather-clad moors and mountain slopes.

Eyton remarks:—"I have several times observed Ring Ouzels on the Berwyn chain near Corwen, never in the valleys or on the tops of the hills, but always at a certain elevation; until driven out they keep themselves closely hid in the fern and heath bushes."

This species is perhaps more abundant on the Berwyns than elsewhere, but it is common on the moors and mountains throughout Merioneth, Carnarvon and Denbighshire; less so in the counties of Flint and Montgomery, whilst in Anglesey it is almost unknown. One was seen by the lighthouseman on Point Lynas in the spring of 1903; probably only a passing migrant.* Mr. O. V. Aplin has

* Coward and Oldham.

noted the birds on Yr Eifl, and adds:—"Probably this group of mountains is the westernmost outpost of the Ring Ouzel in Carnarvonshire, from which county it has been known since the days of Willoughby and Ray."

The species occurs at the lighthouses in company with other thrushes in October and April. In the *B.A. Migration Reports* a "Ringed Ouzel" is recorded as shot at St. Tudwal's at 9 a.m. on 17th February, 1887—a remarkably early date—whilst two struck the lighthouse there 14th September, 1901.* At Llandderfel the earliest date of arrival noted by Mr. Ruddy was 29th March, 1896—average date, 11th April. At Welshpool, Mr. G. D. Harrison observed it 9th April, 1901. At Arthog, Mr. O. V. Aplin saw several in a garden 14th to 19th October, 1884.

The Ring Ouzel is particularly fond of hills where the surface is broken by projecting rocky bosses, and usually places its nest on a ledge of one of these rocks overhung with heather. The pair set about their parental duties so promptly after arrival that the nest is often completed and contains its full complement of four (rarely five) eggs by the end of April, and young by the middle of May. In one instance Mr. O. R. Owen found young on the 26th April.

Mr. F. H. Birley has observed the male doing the greater part of the nest building. Occasionally the Ring Ouzel has a second brood in July. Mr. O. R. Owen once had his cap knocked off by a male bird flying at his head whilst he was stooping over its nest.

7.—WHEATEAR. *Saxicola oenanthe* (Linn.).

CYNFFONWEN = White Rump; TINWEN Y GARN = White Rump of the Stone-heap; TINWEN Y GARREG = White Rump of the Crag.

Summer migrant arriving in March; common on downs round the coast, and on warrens and stony hillsides inland.

In North Wales the Wheatear is most numerous near the

* Aplin, *Zoologist*, 1903, 211.

sea, and has been met with on several of the larger islands. As a breeding species it is comparatively scarce in north Anglesey,* as well as along the coasts of Denbigh and Flint. Mr. S. G. Cummings reports it as occasionally seen in spring and autumn on Sealand, where, in 1905, he observed two as late as 20th October. The earliest arrival noted was by Dr. Moses, who recorded it at St. Asaph, 14th March, 1841. On the coasts it generally puts in an appearance about 21st March; inland, a week or so later. At Welshpool Mr. G. D. Harrison has not seen it earlier than 13th April, though in 1905 Mr. R. H. W. Hodges observed one at Overton, Flintshire, on 18th March, an exceptionally early date for an inland locality. In the *B.A. Migration Reports* it is recorded as striking the lantern at the South Stack during the dark hours, 23rd September, 1881, 15th September, 1884, and 24th March, 1886; also at the Skerries, 8th October, 1886.

There are two forms or races of Wheatear, one larger than the other, and laying a larger egg. The larger has been noted on migration at Penrhyndeudraeth by Mr. G. H. Caton Haigh.

In 1899, Mr. E. Calvert found two nests on Moel Siabod, each containing six eggs. When on inland hillsides, the nest is usually either in a rabbit-hole or deep down in some crevice between large stones. In 1901, Mr. G. A. Hutchinson found two curious nests on the Little Orme's Head. Both were in the quarry where a number of men work every day. One was under a plank leading to a dirt-tip, over which wheelbarrows frequently passed; the other under an arch formed by three stones. Each contained six eggs entirely exposed to view. In 1894, Captain E. A. Swainson found a nest on Mochras just above highwater mark. On 24th June, 1905, Mr. T. A. Coward watched a female feeding her young amongst the sand-dunes at Rhosneigr, Anglesey, and noted that the majority of her captures were chafers.†

The Wheatear is a clever mimic. In 1902, when Mr. Rosse Butterfield and the author were searching for the

* Coward and Oldham, *Zoologist*, 1906.

† *Zoologist*, 1905, 378.

Twite, near Bala, they heard the Twite's call-note uttered repeatedly at a short distance, but on investigation found that the sounds proceeded from a Wheatear; this was on Arennig, at an elevation of nearly 2000 feet.

In June, 1900, I saw a brood of fledged young with the parents at the top of the Bwlch Oerddrws at 1300 feet elevation.

Mr. G. H. Caton Haigh records a nearly white variety obtained at Penrhyndeudraeth in July, 1892.

8.—WHINCHAT. *Pratincola rubetra* Linn.

CLOCHDAR EITHIN = Gorse-Chirper; CREC YR EITHIN = Gorse-Chat; CLEP YR EITHIN = Gorse-Gossip.

Summer migrant, generally distributed and common in parts; not numerous in Anglesey.

The Whinchat, although found in all the six counties of North Wales and on the whole rather a common bird, is yet somewhat local, or even capricious, in its choice of domicile. Thus, whilst it is numerous on the belt of flats which stretch round Cardigan Bay from Pwllheli to Towyn, it is far from common on similar lands in Anglesey.

Inland its favourite haunts seem to be railways and the skirts of moors, though higher up on the moors themselves or on the mountains it is scarce. Compared with the Stonechat, the Whinchat may be described as the more numerous inland, the Stonechat by the sea; but to this rule there are exceptions as, for example in the Barmouth district, where both are common. Even here, however, the Stonechat probably outnumbers the Whinchat.

The Whinchat usually arrives quite at the end of April, and leaves about the end of September, at which time I have seen family parties on the coasts evidently preparing to depart. On Sealand Mr. Cummings gives the earliest date

of arrival as 25th April, 1904—average date 29th April; at Llanderfel Mr. Ruddy gives 30th April, 1899, as the earliest, and 3rd May as the average date; whilst at Colwyn Bay Dr. Russell noted it in 1893 as early as 20th April.

The Whinchat is particularly fond of perching on telegraph wires, a habit which renders it easy of detection wherever these erections occur.

An example with pure white wings was noted by the Rev. W. R. Jones at Churchstoke, Montgomery, in May, 1907.

ANGLESEY. Not common in Anglesey; observed pair Holyhead, May, 1893, and one Cemmaes, 20th April, 1902 (Cummings). Noted Mynydd Llwydiarth and Malldraeth Marshes, 1902; few in S.E., 1903, and in two places in W., 1904 (Coward and Oldham). Seen in S.E. in May (Boraston) Rhosneigr, two or three places, May, 1905 (Coward, *Zoologist*, 1905, 378). Scarce Aberffraw (Gosling) and Llandegfan (Rowland).

CARNARVON. Common Deganwy (Hutchinson). Arrived Llandudno, 28th April, 1883 (Inchbald, *Field*); breeds in lowland hayfields about Conway (Moore); pair Llyn Cowlyd, 22nd May, 1904 (Oldham). Fairly common between Bettws-y-coed and Capel Curig, especially at the latter place (Aplin and Meares). Male Aber, 2nd July, 1904 (Cummings); common Carnarvon (Wynne Williams). Occurs Nanhoron (Lloyd Edwards), Pwllheli (McAldowie), Portmadoc and Dolwyddelan (Forrest). Two pairs Bodfan, 1899, and one Abersoch, June, 1901 (Cummings) seen Clynog (Masefield). Only seen twice in Lley, 1899, and none 1900 (Aplin, *Zoologist*, 1900, 491; 1901, 143). Common Criccieth; breeds just above highwater mark (Horwood); particularly common between Criccieth and Pwllheli (Haigh), Penygroes (Thring), fairly common Abersoch (Constable and Savage).

DENBIGH AND FLINT.—Fairly common Llanrwst (Halhed), Wrexham (Kyrke), Ruabon (Howard), Rossett (Huxley), Overton (Hodges), Llanarmon near Mold (Morgan), Llangollen (Ruddy), and Colwyn Bay inland, but less common than Stonechat by the sea (Russell). St. Asaph very local, (Wrigley) Denbigh a few on moors; one shot out of party migrating autumn 1903 (Congreve), Prestatyn several young 28th August, 1904 (Forrest). Noted Dyserth, Rhydymwyn, Moel Famau and Glyn Ceiriog: several pairs breed on the Dee Cop and about Sealand (Cummings). Male near Llyn

Bran (1450 feet), and one near Pentre Voelas 22nd May, 1904; one on moor near head of River Alyn; another Llanfairtalhaiarn, June, 1905; and brood of fledged young near Cernioge, 30th July, 1905 (Oldham).

MERIONETH. Common all along the western seaboard and estuaries and in Bala district. (All observers.)

MONTGOMERY. Generally distributed and more or less common. (All observers.)

9.—STONECHAT. *Pratincola rubicola* (Linn.).

CLOCHDAR CERRIG = Chirper of the Crag; CLEP Y GARREG = Stone Gossip; WIL CAPAN DU = Black-Cap Will; CREC PENDDU'R EITHIN = Black-headed Gorse-Chat; CREC Y GARREG = Stonechat.

Partial migrant; most numerous near the coasts, especially in Anglesey, where it is extremely common.

In North Wales this pretty and sprightly bird is found in all six counties, but is, generally speaking, far more common near the coasts than inland. Along the west side of Anglesey, especially on the railway embankments, it is astonishingly numerous.

It particularly affects brambly, gorse-clad slopes, and in these situations places its nest snugly beneath a thick canopy of furze. To discover the nest is no easy matter; for not only is it remarkably well hidden, but the bird is extremely wary, and will not approach it as long as it is being watched. Even when unaware of a watcher, the bird never alights at the nest, but at some distance, and approaches it by creeping cautiously along the ground. When alarmed, the blackheaded cock flits from bush to bush uttering angry "chut-chuts"—like two stones knocking together—whilst the hen from a safe distance responds weakly.

The Stonechat is an early breeder, building about the end of

March, and having the young out of the nest by the beginning of May. It has a second brood later in the year.

Only a small proportion—perhaps, twenty per cent.—of the local Stonechats are resident, the remainder staying with us only from March to October. Mr. Caton Haigh says they “become very common after a succession of mild winters, but suffer much during frost, as well as from the custom of burning gorse”; and Mr. Rawlings adds that at Barmouth “the winter of 1889 thinned them terribly: during the frost that year they were picked up dead by dozens.”

10.—REDSTART. *Ruticilla phoenicurus* (Linn.).

LLOSTRUDDYN = Red-tail; TINGOCH = Red-Tail; DERYN COCH Y FFLAM = Red Fire-bird; Y DINBOETH = Hot-Rump; RHONELL GOCH = Red-Tail.

Summer migrant, somewhat local but common in most wooded districts; rare in Anglesey, and not recorded in Lleyn.

The distribution of the Redstart in North Wales is peculiar and at first sight puzzling, but on investigation it will be noticed that it is found commonly in all the well-wooded lowland valleys and hardly anywhere else. This explains the scarcity of the species in Anglesey, and its apparent absence from Lleyn and the mountainous parts of Carnarvon and Denbigh, though it is found in certain wooded valleys in those counties.

The handsome males arrive a few days before their mates towards the end of April. At Llandderfel the earliest date noted was 9th April, 1893; average date 20th April. At Welshpool the earliest date noted by Mr. G. D. Harrison was 21st April, 1894; average 1st May. At Colwyn Bay, Dr. W. B. Russell observed it as early as 12th April, 1893.

Redstarts are rarely noted at the lighthouses; one flew on board the Carnarvon Bay lightship during a fog at noon,

6th May, 1887, and two were seen on the Skerries, 18th August, 1887.

The nest with its pretty pale blue eggs is usually in some hole in a wall or tree, but Mr. Rosse Butterfield has found it in the tops of pollard willows by the Severn near Welshpool.

ANGLESEY. Never noticed at Aberffraw (Gosling), apparently absent from W. (Coward and Oldham). One seen Llanbadrig 19th April, 1902 (Cummings). Pair between Garth and Beaumaris (Coward and Oldham). Two pairs wooded shore of Menai Straits, May, 1903 (Boraston). Have seen the bird in spring near Holyhead, but never found nest (Edwards).

CARNARVON. Fairly common Bettws-y-coed and Capel Curig: few about Llanberis (Forrest) and Carnarvon (Wynne Williams). Not seen in Lleyn (Aplin and Lloyd Edwards). Few Deganwy (Hutchinson). Common in wooded country Conway Valley (Moore and Oldham) Llanfairfechan and Aber (Benson). Fairly common Beddgelert (Evan B. Jones), Capel Curig (Aplin).

DENBIGH AND FLINT. Colwyn Bay scarce (Russell), Ruthin noted once (Radcliffe), Wrexham not very common (Kyrke). Nest 5th June, 1897, built in middle of dead gorse bush by roadside at Llanfairtalhaiarn (Cummings). Breeds Bodrhyddan (Lloyd Edwards) and near Denbigh (Gosling). Local at St. Asaph (Wrigley): scarce Flintshire near Ellesmere (Tower), common Chirk, Llangollen, and Vale of Clwyd (Dobie's list). Female Sealand, 15th April, 1902, and one 22nd August, 1903 (Cummings). Noted at Valle Crucis, 25th June, 1903 (*id.*); pair Glyn Ceiriog, May, 1905 (Meares); few Rossett (Huxley); scarce Llanarmon, Mold (Morgan); common Llangollen (Ruddy) and between Hope and Mold (Cummings).

MERIONETH. Common Bala (Ruddy) Llanfachreth (Pugh), Llanbedr (Pearse), where in 1902 some were seen 27th April, and several soon after (Moore). Fairly common Dovey Estuary (Feilden, Kershaw and Jackson), Corris plentiful most years but fewer than usual 1900-01 (Birley), common Machynlleth (Anwyl and Lewis); not so common as formerly Dinas Mawddwy (Buckley); occurs Ffestiniog (Morris); fairly numerous Penrhyndeudraeth and has certainly increased during the last ten years (Haigh). Very common Barmouth (Rawlings) and in wooded valleys near west coast generally (Aplin and Beddall Smith).

MONTGOMERY. Very numerous along the Severn Valley in Mont-

gomeryshire (Butterfield), Welshpool (Naylor, Bruce), Guilsfield (Mytton), Llanerfyl (Harington), Deytheur (Lort). Fewer at Pool Quay (Hayward), Llansantffraid, a few pairs (Kempster). Fairly common Marrington (Horwood), Meifod, 9th April, 1870 (*Field*). Breeds in Llyfnant Valley (Salter). Rather scarce Newtown; locally called "Bessie Burnt-tail" (Jones). Common Garthmyl (Fort); a few round Lake Vyrnwy (Wilson). Abundant in many places Llanidloes district (H. Raeburn, *Zoologist*, 1894, 406).

11.—BLACK REDSTART. *Ruticilla titys* (Scopoli).

Rare winter visitor, recorded on the coasts five times; twice in spring.

In the *Field*, 30th January, 1886, H. C. T. B. records that "on January 21st he shot a Black Redstart (*R. titys*) on the sandhills adjacent to the seashore near Towyn." Mr. G. H. Caton Haigh obtained another on the Traeth Mawr, 5th April, 1888; he thinks it was then on migration. Dr. W. H. Dobie records in his list a male, now in Chester Museum, killed at Gorsedd, near Holywell, 25th March, 1889. Professor Salter records one killed on the south shore of the Dovey Estuary in 1886, and Mr. F. T. Feilden tells me he saw a female in the same locality subsequently.

12.—REDBREAST. *Erithacus rubecula* (Linn.).

ROBIN GOCH=Red Robin; BRONRUDDYN=Ruddy Breast; BRONGOCH=Red Breast; Y GOCH GAM=The Red Hopper.

Plentiful everywhere except on very elevated land.

Reported by observers in all counties as common. Mr. A. Moore adds that they occur not only on lowlands but about the farms on the hills and moors.

Mr. Caton Haigh thinks that there is an accession to the numbers on the Merioneth coast during winter, and migrant Robins are noted occasionally at the lighthouses—St. Tudwal's,

South Stack, and Dee lightship—about the end of September and during October. One was killed at the South Stack at 4 a.m., 7th September, 1885.

Varieties of the Robin occur from time to time. Mr. Aplin noted a Redbreast on Puffin Island, 21st May, 1903, and a pair evidently nesting was seen there a week later by Messrs. Cummings and Oldham. Dr. Russell noticed one at Colwyn Bay in 1898 with back and wings of a creamy-brown colour. A nest at Colwyn Bay in May, 1904, contained one white Robin and three of the ordinary colour. Mr. J. Rowlands records a clutch of five pure white eggs, and Mr. Cummings another set of seven on the Dee Cop, very little marked.

13.—NIGHTINGALE. *Daubias luscinia* (Linn.).

Eos = Nightingale.

Summer migrant. Rare. Occurs irregularly on the English border; unknown elsewhere.

North Wales lies outside the normal range of the Nightingale, and it never visits regularly any part of it. Still it is an undoubted fact that the prince of songsters does occur at irregular intervals, chiefly in the southern part of Flintshire, though occasionally in the neighbouring parts of Denbigh and Montgomery.

It has also been reported much further to the north-west, at Colwyn Bay, Rhuddlan and Corwen, but the evidence is not conclusive, and the probabilities are that some other species that sings at night (*e.g.*, Garden Warbler, Sedge Warbler, or Thrush) was in each instance mistaken for the Nightingale.

In Shropshire the Nightingale's range extends all along the valley of the Severn, and it is of rare occurrence at any distance from the river. Furthermore it occurs regularly up to a certain point below Shrewsbury and irregularly above that point. In some years (*e.g.*, 1902) it is quite

numerous above Shrewsbury, but still exhibits a tendency to extend its range only along the river. This being the case, the occasional record of a Nightingale at Welshpool or Abermule—both on the Severn—is not so improbable as it might otherwise appear, and the details are therefore inserted below. Other records that are altogether improbable are omitted.

ANGLESEY. Unknown.

CARNARVON. Unknown. The record in Williams' *History of Aberconwy* in 1834 is very doubtful.

DENBIGH AND FLINT. Heard on two occasions in Nantwyffrith woods; has been heard many times during the last forty years round Wrexham (Kyrke). In the summer of 1889 one sang in a spot just on the border of Flintshire, four miles from Edge Hall, Malpas (Rev. C. Wolley Dod). About 1870 one came to Bersham Wood, Wrexham, and sang for many nights. "I saw the bird" (W. B. Phillips, *in lit.*, 2nd February, 1901). One near Mainwaring's Pool, Southey Hill, near Wrexham, in May, 1889 (*Bygonas*, 1889, 127), Gresford, 1888 (*id.*, 1888, 113), Nantmawr, Oswestry, where it used to begin to sing every night about 9.30 in May, 1889 (*id.*, 1889, 369 and 378). On Lord Kenyon's estate, Gredington, Flintshire, one was shot about 1890, thus placing its identity beyond doubt. Nightingales have repeatedly occurred there though not every year (Forrest). Occurs very rarely on Flintshire border near Ellesmere (Tower). One heard near Colomendy Mold, in 1882 (Cooke). During the first half of June one heard near Holywell and another near Gresford (*Field*, 17th June, 1871). Heard repeatedly, 1879-1884 in a plantation at Burton, near Rossett (Venables). In 1902 one sang at "Hole in the Wall," Penlly, and in 1905 another at Overton throughout May, up to 27th: a few years earlier one took up quarters half a mile from same spot (Hodges).

MERIONETH. No authentic record.

MONTGOMERY. "About 1869 I heard a Nightingale frequently singing in Trawscoed Rough, Guilsfield, Welshpool. I never saw, nor attempted to see the bird, but well-knowing the note of the Nightingale, I am positive I made no mistake" (Beck). One singing at Leighton in May, 1900 (Bruce). Heard for two or three years by the Severn near Abermule (Rev. F. O. Philpott, in the *Field*, 25th May, 1889).

14.—WHITETHROAT. *Sylvia cinerea* Bechstein.

LLWYDFRON = Pale Breast; BARFAWG = Whiskered; DRYW WEN = White Wren; DRYW'R DRYSN I = Thicket Wren; BRONWEN = White-Breast.

Summer migrant, common and generally distributed.

Next to the Willow Wren this is the most abundant and generally distributed of the true warblers, being found wherever there are hedges or bushes such as it prefers for nidification. It is especially numerous in Anglesey and Llyn, and occurs even on such barren islands as Bardsey and Puffin Island.

It generally arrives during the last week of April and leaves early in September; the earliest date recorded by Mr. S. G. Cummings was on Sealand, 18th April, 1904, and the latest in west Anglesey, 28th September, 1904.

It is seldom recorded at the lighthouses on migration, but one was killed at the Dee L.V., 3rd September, 1886, and another at the Carnarvon Bay L.V., 15th May, 1887.

15.—LESSER WHITETHROAT. *Sylvia curruca* (Linn.).

LLWYD FRON FACH = Little Pale Breast; BRONWEN LEIAF = Lesser Pale Breast.

Summer migrant, fairly common in the eastern but very rare in the western half of the district.

So little was actually known as to the distribution of the Lesser Whitethroat that when the late A. G. More published his paper on the distribution of birds during the breeding season, he reported it as "probably" breeding in North Wales but had no authority for the statement. Even up to

the present time very little has been published bearing on the subject, so that this is practically the first attempt to elucidate it.

The Lesser Whitethroat is an inconspicuous bird and not one that challenges the attention of every passer-by, so that it usually escapes the observation of all but the ornithologist who knows its song and call-note. It follows, therefore, that the details here given are possibly incomplete, and that the bird may occur in some districts where hitherto it has not been noted. Still enough is now known to show that the bird occurs in fair numbers throughout Flint and Denbigh, and the eastern parts of Montgomery and Merioneth. In Carnarvonshire it is confined to the Vale of Conway with its tributaries, whilst it is unknown further to the west, and very rare on the west coast of Merioneth and Anglesey.

Its numbers in different years appear to fluctuate considerably. Dr. Russell says that at Colwyn Bay it is generally fairly common, but in 1900 he did not hear one.

The average date of arrival on Sealand is recorded by Mr. Cummings as 26th April; earliest 23rd April, 1900, and 1904. At Colwyn Bay, Dr. Russell has noted its arrival from 3rd to 11th May.

In 1904 Mr. Cummings found a nest on Sealand in which green moss had been used for the outside of the structure. The Lesser Whitethroat frequents trees more than the common species.

ANGLESEY. Not observed (Forrest). In 1900 Mr. L. T. Williams shot one by Llyn Coron; it was on the top of a thicket (Edwards). One observed north-east 24th May, 1903, and two between Beaumaris and Penmon, 18th May, 1904, and in June, 1905 (Coward and Oldham).

CARNARVON. Not known in Lleyllyn (Aplin, *Zoologist*, 1900, 492, and 1902, 109). Seen Gloddaeth, but scarce (Hutchinson), Deganwy, local eggs in collection of Mr. T. Hague (Forrest). Observed bird at Bettws-y-coed (*id.*), Llandudno arrived 29th April, 1883 (P. Inchbald, *Field*, 12th May, 1883). One in song between Gloddaeth Woods and Pabo, 13th June, 1903 (Cummings and Oldham).

DENBIGH AND FLINT. Common Sealand, noted at Nantyglyn, Denbigh, Rhos, Tremeirchion, Glyn Ceiriog Valley, Bodfari and Llandulas (Cummings). Occurs Denbigh (Congreve), St. Asaph local (Rogers and Wrigley), Colwyn Bay rather scarce (Russell), Ruabon (Howard). Wrexham nest found several times (Kyrke). Llangollen six or seven nests in season (Owen). Flintshire, Ellesmere district common (Tower) Sealand two nests near together 1893 (Dobie's list). Noted at Llanrwst, in Elwy Valley near Ddol Farm, Nantglyn, Old Colwyn, Abergele, and near St. Asaph; one singing 18th May, 1907, at Llanellian, over 900 feet elevation (Oldham). Fairly common Rossett (Benden). Breeds Llanarmon (Morgan).

MERIONETH. Bala scarce (Ruddy) several heard there in 1898 (Cummings), one seen and heard May, 1902 (Forrest). Several pairs noted and nests found Llanuwchllyn, 1901 (Davenport). Never met with in north-west Merioneth (Haigh). Never met with in west Merioneth in five successive years' visits May and early June (Aplin), never seen Machynlleth (Lewis).

MONTGOMERY. Welshpool seen in own garden (Harrison). Noted at Forden (T. C. Vize). Not common Marrington; one nest, 1901 (Horwood). Several pairs Newtown; two nests found 1901 (Butterfield). Mr. Griffiths, Maes-y-garreg, Welshpool, found two nests there in 1901, and has eggs found locally in 1894 (*id.*) Heard Welshpool 26th May, 1900 (Salter, *Zoologist*, 1902-5). One singing Llanidloes early in July, 1895 (Swainson). Scarce Montgomery (Brown) and Llanerfyl (Harrington)). Not uncommon Garthmyl (Fort), Newtown (Williams).

16.—BLACKCAP. *Sylvia atricapilla* (Linn.).

PENDDU = Black-head; LLEIAN BENDDU = Black-headed Nun; Y TELOR BACH PENDDU = The Little Black-headed Warbler.

Summer migrant, common except in Anglesey and Lleyn.

The Blackcap is essentially a woodland bird, and is found in suitable places throughout the district. In Anglesey it is rare except along the Menai Straits, where it is common on both sides of the water. In Lleyn, too, it is rare except in a

few scattered localities. Its scarcity in both counties is evidently due to the lack of woodlands, though even in the barer parts a pair or two may occasionally be seen haunting clumps of brambles, etc. It is very generally distributed throughout the wooded parts of North Wales, but is perhaps most numerous in Merioneth.

The Blackcap usually arrives in North Wales during the last week of April, the earliest dates recorded being 17th April, 1877, at Llandderfel, and 19th April, 1903, at Colwyn Bay.

17.—GARDEN WARBLER. *Sylvia hortensis* Bechstein.

(No recognized Welsh name.) LLWYD Y BERLLAN = BROWN of the Orchard; DRYW WEN = White Wren.

Summer migrant; generally distributed in the southern half of the district, local in the northern half, rare in Anglesey and west Carnarvon.

This is another species that is apt to be overlooked by all but the practised ornithologist, and its status in North Wales has hitherto been almost unknown. It is a bird oftener heard than seen, whilst its song so closely resembles the Blackcap's that one may easily be mistaken for the other. A. G. More marked the Garden Warbler as probably breeding in North Wales, but had no authority for so doing, and even up to the present time the statements in books regarding it are more or less erroneous.

Although of similar habits to the Blackcap, and often frequenting the same haunts, it is generally less numerous, and more partial in its distribution. Both species are found in wooded valleys, but the Garden Warbler is only numerous in such places in Montgomeryshire and in the southern parts of Denbigh, Flint, and Merioneth. In the northern parts of those counties, as well as in Anglesey and Carnarvon, it is rare, except along the Conway Valley, where it occurs in fair numbers.

It is a beautiful songster, and frequently sings at night if it be moonlight—a habit which has led to reports of Nightingales being seen or heard in places where that species never occurs. On such occasions the Garden Warbler will burst into song with a suddenness that is almost startling.

Professor Salter has observed that the young when alarmed drop out of the nest and hide in the undergrowth, long before they are able to fly.*

At Welshpool, Mr. G. D. Harrison records its arrival as generally during the last week in April.

ANGLESEY. Only once observed south-west Anglesey, in a garden Bodfeurig (Gosling). One at Llanfair, P. G., 1902; one seen and nest found in same place, June 13th, 1903; one seen in north-east 25th May, 1903; one singing Treiorwerth, 1904 (Coward and Oldham), and another near Llanfaes, 12th June, 1905 (Coward, *Zoologist*, 1905, 379).

CARNARVON. Common Penmaenmawr (Kneeshaw) and Bettws-y-coed; nest May, 1902. Noted at Llanberis (Forrest), Carnarvon (Wynne Williams), scarce Deganwy (Hutchinson); eggs in collection taken locally (Hague). Generally distributed round Conway (Moore). Occurs in Pwllheli district (Haigh). Not observed in Lleyn (Aplin). Occurs Llandudno (P. Inchbald, *Field*, 12th May, 1883), and Ynysfor, but is not common (Evan B. Jones). One in garden at Capel Curig 18th May, 1905 (Aplin).

DENBIGH AND FLINT. Llanrwst not plentiful (Halbed), noted there May, 1901 (Forrest). One seen Colwyn Bay 7th September, 1904, but never observed there by Dr. Russell (*id.*). Occurs St. Asaph (Wrigley). Rare Denbigh; found nest and saw birds May, 1904 (Congreve). Common Llangollen (Owen), Wrexham (Kyrke), and Ceiriog Valley; occurs also along the Dee Valley (Ruddy); several nests Llandderfel, June, 1897 (Dobie and Cummings). Occurs Llanfair-talhaiarn, nests found May, 1897 (Cummings), May, 1904, one building, Nantglyn (Oldham). Several near Chirk May, 1905 (Meares), Common Rossett (Benden).

MERIONETH. Common Bala, arrived 14th May, 1900; several near Nantglyn, 31st May, 1906 (Cummings), usually stays till first week September feeding on currants (Ruddy). Breeds regularly in garden, Bala (Burton). Corris more common

* *Zoologist*, 1904, 68.

than the Blackcap (Birley); Dolgelley a few (Bailey); a pair close to shanty (one thousand and fifty feet) on moors north of Barmouth, throughout breeding season, 1900 (Beale). Rarer than Blackcap, Barmouth (Rawlings and Roberts), Penrhyndeudraeth fairly numerous, and has spread outwards in the last ten years (Haigh). Noted at Ffestiniog (Forrest). Breeds Llanbedr (Pearse) where in 1902 first appeared 27th April (Moore); several seen there a month later (Forrest). In 1904 seemed quite as numerous as Blackcap (Attlee). Occurs Machynlleth (Anwyl). More numerous than the Blackcap in West Merioneth (Aplin). Fairly common Llwyngwrl (Beddall Smith), nest five eggs, Bala, 2nd June, 1906 (Riviere).

MONTGOMERY. Welshpool common (Harrison). Newtown, very common; more numerous than Blackcap along Severn Valley (Butterfield). Leighton common (Naylor), Marrington fairly common (Horwood), heard Llanwddyn, 10th June, 1904 (Ruddy); nest and eggs near Llanidloes (H. Raeburn, *Zoologist*, 1894, 406).

18.—GOLDEN-CRESTED WREN. *Regulus cristatus* K. L. Koch.

DRYW BEN AUR = Golden-headed Wren; DRYW BEN FELEN = Yellow-headed Wren; DRYW BACH Y COED = Little Wood Wren.

Resident and common except in north Anglesey; more numerous in winter.

This hardy little bird is found in all six counties wherever there are suitable woods. It specially affects such as contain conifers, generally suspending its beautiful nest hammock-wise beneath the bough of a yew or some similar tree, though occasionally in ivy covering the trunk of a tree.

The only districts in which the Goldcrest is rare are the parts of Lley and Anglesey that are devoid of trees, whilst even there it occurs as a passing migrant, and is sometimes numerous in winter, its numbers being then increased by immigrants from the continent.

Although this immigration takes place chiefly on the east

coast of England, its effects are felt even in this remote part of the kingdom. On 28th August, 1884, scores passed Bardsey light during the night, dozens striking the lantern. Goldcrests have also been noted at the South Stack, the Skerries, and the Dee L.V., mostly in October, though stragglers and small parties have been noticed in September and November, as well as in the spring. They frequently travel in company with other species.

In winter the Goldcrest is frequent in bushes and hedgerows, and may occasionally be seen feeding in fields amongst the root-crops. Mr. S. G. Cummings noted a pair feeding young in a wood near Moel Famau as late as 11th September, 1904.

At Colwyn Bay, Dr. W. B. Russell saw one hovering round a crimson artificial flower in a lady's bonnet, and he remarks that the Goldcrest is almost the only British bird that can suspend itself motionless in the air whilst examining both upper and under surfaces of a bough in search of insects.

19.—FIRE-CRESTED WREN. *Regulus ignicapillus*
(C. L. Brehm.).

Recorded once in Carnarvonshire.

A specimen shot at Pwllheli, 24th March, 1878—according to the statement of the taxidermist—was in the collection of Mr. E. Bidwell until sold by auction, 12th May, 1904.

20.—CHIFFCHAFF. *Phylloscopus rufus* (Bechstein).

SIFFSAFF: DRYW FELEN = Yellow Wren (applied also to two following species); YR ADERYN MELYN BACH = The Little Yellow Bird; YR HELIG-DDRYW LEIAF = The Lesser Willow Wren.

Summer migrant; common except about Bala and in Lleyn and north Anglesey.

Although the Chiffchaff is common enough in North Wales, it

is neither so numerous nor so general as in the neighbouring English counties. It is perhaps most numerous along the Menai Straits, though elsewhere in Anglesey, as also in Lleyn, it is seldom met with, owing, doubtless, to the lack of trees. It is also comparatively scarce in the neighbourhood of Bala—perhaps on account of its elevation, since in contiguous country, a little lower down, it is fairly common. The same remark applies to the Capel Curig district, where I have never observed this species, although it is common at Bettws-y-coed, and abundant at Penmaenmawr and other places. Along the west coast of Merioneth, too, it is decidedly local, and not numerous anywhere.

The Chiffchaff is the first of the warblers to arrive, and for this reason its cheerful but monotonous call is always welcomed by the naturalist. Throughout North Wales it usually puts in an appearance about the end of March on the coasts, but a week or so later inland: the earliest record was in 1899, when Mr. H. G. Attlee heard the Chiffchaff at Llanbedr on 16th March. The same year a pair there reared two broods, the first lot of young being hatched at the very end of May, whilst there were four eggs in the second nest by 26th June.

The song is heard almost incessantly from the time of arrival up to June or July, and is renewed in September, though with less vigour. In 1903 it was heard by Mr. G. A. Hutchinson in Gloddaeth Woods, Llandudno, up to 30th September. In 1894 Mr. T. Ruddy saw a Chiffchaff that had been caught at Gaerwen on 15th November; its wing feathers were defective, which accounted for its remaining to so late a date.

On migration the Chiffchaff frequently travels in company with the Goldcrest.

21.—WILLOW-WREN. *Phylloscopus trochilus* (Linn.).

DRYW 'R HELYG = Willow Wren; DRYW FELEN = Yellow Wren; SHAN FACH YR HELYG = Jenny of the Willow; DRYW BACH Y DDAEAR = Little Ground Wren.

Summer migrant, common in all but very bare localities; the most abundant of the warblers.

The Willow-Warbler, or Willow-Wren, is so common in all suitable country that details as to its distribution are not necessary. The only districts in which it is not common are those which are devoid of trees, such as Lleyl and Anglesey, yet even here it is found in some numbers, and Mr. Aplin noted a few on the lower parts of Bardsey.*

The Willow-Wren generally arrives early in April and leaves some time during September.

The earliest date noted by Mr. Ruddy at Palè was 29th March, 1894—a remarkable date; average, 14th April.

Mr. T. A. Coward observed a great "rush" of migrants on the night of May 1st-2nd, 1905, in the neighbourhood of Rhosneigr, chiefly Willow-Wrens; the majority disappeared during the next few days.†

According to the *B.A. Migration Reports* the principal autumn movements take place in September, but sometimes earlier; in 1887 one got killed at the Skerries lantern on 16th August, another on the 18th, and twelve on the 25th.

On Sealand Mr. Cummings has twice found the nest in unusual positions—in the turf used to cover the marker's shelter at the targets on the rifle-range on Sealand, and on the top (not inside) of a thorn hedge in the Ceiriog Valley, about five feet above ground.

At Abersoch, in June, 1901, Mr. Cummings noticed one which for several days together sang from the chimney-pot of a house, though there were trees near. He also saw young being fed on Sealand in August, 1903; these must

* *Zoologist*, 1902, 13.

† *Zoologist*, 1905, 379.

have been a second brood, though the Willow-Wren is not generally double-brooded in North Wales.

Mr. Caton Haigh has noticed that it feeds its young largely on the caterpillars of *Tortrix viridana*, the moth that devastates the foliage of oak trees.

Professor Salter records a nest with the large clutch of twelve eggs.*

22.—WOOD-WREN. *Phylloscopus sibilatrix* (Bechstein).

DRYW'R DDAEAR = Ground Wren; DRYW'R COED = Wood-Wren; DRYW FELEN = Yellow Wren; GWRACH = Dwarf.

Summer migrant, common in open woods generally, but especially in certain wooded valleys of Merioneth and Carnarvon; in Anglesey common only in the south.

The Wood-Warbler is far more numerous in North Wales than is generally supposed. About Llanberis, Barmouth, and some other western districts, it swarms in all the woods to such an extent that its shivering song becomes almost wearisome, whilst its call note resounds through the woods incessantly.

This note resembles the call of the Pied Flycatcher, but is uttered rather more quickly. In many western woods both species are common and may be heard calling simultaneously. The Wood-Wren has also another call-note—rather like that of the Wren, only sharper and repeated—which it uses only when feeding young in the trees.

In Anglesey the Wood-Wren is common along the Menai Straits, but elsewhere it has been noted only in a few localities where there are woods. In Lley, too, it occurs in similar places. Along the Severn Valley, in Montgomeryshire, it usually outnumbers the Chiffchaff.

At Barmouth Mr. F. C. Rawlings has found as many as five nests in one small wood. The clutch usually numbers six, but seven eggs are not uncommon, and Mr. Rawlings

* *Zoologist*, 1894, 345.

once found a nest containing eight. Mr. O. V. Aplin describes an extraordinary site for a Wood-Wren's nest near Dolgelley: it was in a transverse groove along the surface of a big block of stone in a wood, and the bird was sitting on eggs when found.

This species particularly affects hillside woods of oak where the undergrowth is but scanty, though, according to Professor Salter, in the country about the Dovey Estuary it prefers localities in the woods where beech trees grow, being less numerous in oak plantations.

It arrives rather later than its congeners, near the end of April, and departs early in September. The earliest date noted was at Colwyn Bay, 19th April, 1893, by Dr. W. B. Russell. It evidently begins to nest almost immediately, since nests with the full clutch of six eggs have been found as early as 25th May. It occurs in mountain valleys up to an elevation of at least 1000 feet, provided there are suitable trees.

23.—REED-WARBLER. *Acrocephalus streperus* (Vieillot).

ADERYN Y CYRS = Reed Bird; TELOR Y CYRS = Reed Warbler.

Summer migrant; very local and rare except on the Shropshire border; not recorded in Anglesey.

Except in the immediate neighbourhood of the "mere-district" round Ellesmere—most of which is in Shropshire—the Reed-Warbler seems to be of rare and irregular occurrence throughout North Wales. Still the localities in which it has been identified range so far both to the north and west, that it is by no means improbable that further research will establish it as an occasional visitor to many places. Thus one observer has heard a bird which he believed was a Reed-Warbler at Towyn, whilst another has found an old nest near Barmouth.

Reeds are so essential to this species that it would naturally avoid such districts as did not afford it the requisite shelter, and it is noticeable that although small lakes are numerous in North Wales very few are bordered by reed-beds of any extent. Indeed, the most extensive reed-beds are found there not by the lakes, but alongside railway embankments, and in ditches intersecting marshy flats, and these the Reed-Warbler seems to avoid.

ANGLESEY. No authentic record.

CARNARVON. Observed one May, 1900, several times "singing in some tall reeds of the previous year's growth in the marsh at Abersoch; the leisurely song was quite characteristic; the bird's habits, too, contrasted strongly with those of the restless Sedge-Warblers around" (Aplin, *Zoologist*, 1901, 142). Three eggs in collection taken close to Roman Bridge station; bird heard there previously also (Bucknill). Eggs taken at Deganwy about 1895, in collection of Mr. T. Hague of that place; Mr. Hague has found the nest on two occasions (Forrest). Observed at Cwm-y-glo, near Carnarvon (Wynne Williams). Occurs Deganwy but scarce (Hutchinson).

DENBIGH AND FLINT. Breeds numerous in the reed beds fringing some of the meres on the borders of Flint and Salop, near Ellesmere (Forrest). Nest found same district about 1890 (Lees). Mr. Bell, of Shrewsbury, when at school at Holywell about 1870, found a nest and eggs in some reeds by a pond near that town (Forrest).

MERIONETH. Several times seen and heard in the reed beds close to Barmouth Junction, and once found old nest suspended in the reeds (Beddall Smith).

MONTGOMERY. Occurs Montgomeryshire (*Field*, 13th January, 1883). Reported as breeding in Powis Park, 1900, and near Meifod (Butterfield). Nest found some years ago in reeds round Marton Pool (Williams), and reported by other observers same place (Forrest). There was a Reed-Warbler by some small ponds near Guilsfield in 1900, and another in same district some years earlier (Beck).

24.—SEEDGE-WARBLER. *Acrocephalus phragmitis*
(Bechstein).

DRYW 'R HESG = Sedge Wren ; LWYD YR HESG = Grey (Bird)
of the Sedge ; LLWYD Y GORS = Grey of the Marsh ; TELOR
YR HESG = Sedge-Warbler.

Summer migrant, generally distributed in lowlands, but somewhat local
numerous in the west.

Although the Sedge-Warbler is generally distributed in North
Wales, and numerous in many parts of the lowlands, it is
decidedly local. For instance it is curiously scarce along
the Conway River except around the estuary, and I have only
once met with it at Bettws-y-coed. It is extremely numerous
in the marshy lands of western Anglesey, and on similar
ground below Llanberis. As a rule it is confined to such
situations but in some parts is found in hedges quite away
from any water. On the Dee marshes and on all the western
estuaries it is very common, but inland it is mainly restricted
to the larger valleys, and to an altitude of not more than 800
feet. It is common, however, at Bala, and has twice been
noted at Capel Curig. Mr. O. V. Aplin noted it on Bardsey
Island.*

The Sedge-Warbler arrives towards the end of April and
leaves by the end of September, though the exodus begins
earlier, as it is recorded in 1887 as killed against the lantern
of the Skerries lighthouse on August 16th, 18th and 29th.
Mr. S. G. Cummings observed one at Llyn Maelog as late as
27th September, 1904, and has seen it on Sealand on 21st
April, 1902.

He adds that this species is usually double-brooded, at least
in Flintshire, young being often found in the nest during
August.

In May, 1901, I found a nest with five very pale eggs in a
hedge by Llyn Coron, Anglesey, quite ten feet above the ground.

* *Zoologist*, 1902, 13.

The loud hurried song of the Sedge-Warbler, interspersed with harsh scolding notes and imitations of other birds, is so different from the rich rolling notes of the Nightingale, that it is impossible for anyone acquainted with the latter to confuse the two. The mistake is constantly recurring, however, through the prevalence of the impression that the Nightingale is the only nocturnal songster, and that it sings only at night—both erroneous suppositions.

25.—GRASSHOPPER-WARBLER. *Locustella naevia*
(Boddaert).

* Y TROELLWR BACH=The little Spinner; * Y NYDDWR BACH=The little Spinner; GWICH HEDYDD=Creaking Lark; YR ANHYWEL=The inconspicuous.

Summer migrant; generally distributed; fairly common on hills inland, less numerous on flats by the coast.

The presence of this skulking little bird is much more evident to the ear than to the eye, as its curious "reeling" may be heard at all hours of the day or night in its haunts.

In North Wales it affects more particularly hillsides covered with rough vegetation, and in such places may be found up to an elevation of about 1500 feet, as well as on lowland flats. Generally speaking it is more common on the hills than on the flats.

The Grasshopper-Warbler arrives here towards the end of April and leaves before the end of September. The earliest date of arrival noted on Sealand was 23rd April, 1904; average date, 28th April; at Colwyn Bay 20th April to 1st May. One was killed at the Skerries lighthouse in the autumn of 1886.

The Welsh names of the bird are singularly appropriate, the three first alluding to its song, the last to its habit of concealment.

Dr. W. H. Dobie remarks in his list that at Colwyn Bay

* See under "Nightjar."

“sometimes a duet may be heard in the evening between it and the Nightjar A plaintive high-pitched piping note may be made out between the trills of its song as it creeps along the hedgerow, quite distinct from the ‘tic’ of its alarm note.”

Mr. Cummings has observed that on its first arrival the Grasshopper-Warbler is not averse to showing itself, for, if flushed, it will fly into a hedge and start reeling in a low key, without attempting to hide itself, or will even sit and preen its feathers after its long journey north.

ANGLESEY. Llandegfan, scarce (Rowland). Occasionally heard Bull Bay (Cummings). Observed near Llangefni, 1902 and 1905. Common in north-east Anglesey; in west observed only Rhosneigr (Coward and Oldham). One heard in marshy ground near Holyhead, 3 a.m. in June, 1898 (Howard). Heard near Valley, 12th June, 1905 (Forrest).

CARNARVON. Plentiful throughout Deganwy district (Hutchinson). A pair in most gorse places round Conway (Moore). Nest found Dolwyddelan, 1897 (Bucknill). Noted in two years by Mr. Coward at Llanbedrog, and heard Abersoch May, 1901, and Nevin in 1903 (Aplin). Several heard about Capel Curig amongst hills in May, 1904 (Forrest). Heard Llanbedrog, 18th May, 1900 (Dobie, *Zoologist*, 1901, 143). Llandudno, 28th April, 1883 (*Field*, 12th May, 1883); Llangwstenin (Cummings). A few heard every season at Ynysfor (Evan B. Jones). Noted one Abersoch (Savage).

DENBIGH AND FLINT. Colwyn Bay fairly plentiful; particularly numerous Nantglyn 1904 (Russell). Breeds freely in the scrub on the mountains (Newstead). “Noted at Prestatyn in May, 1891” (Dobie’s list). Heard at Hawarden, Trefnant, Bodfari, between Hope and Mold, Abergele, and Sealand (Cummings). Very common some years at Nantyffrith, Wrexham (Kyrke). Rare Llangollen (Owen). Llanrwst, 1830 (*Faunula Grustensis*). One heard near Llyn Bran (about 1400 feet) 22nd May, 1904 (Oldham). Two heard and one seen above Llanarmon May, 1905 (Meares).

MERIONETH. Bala, numerous on lower slopes of the Berwyns heard on Mochras May, 1902 (Forrest). Barmouth, first heard, 1888, increasing annually, undoubtedly breeds, but never found nest (Rawlings); less numerous now favourite haunts destroyed by fire and sickle; heard 6th May, 1904 (Roberts); a few pairs Llanbedr; first heard in 1902 on 24th April

(Moore); Penrhyndeudraeth, appears in small numbers almost every summer (Haigh); Dovey Estuary, only arrived in recent years (Salter, *Zoologist*, 1895, 193). Noted near Dolgelley at an elevation of 1050 feet, all breeding season 1901 (Beale). Scarce Llwyngwrl (Beddall Smith). Noted at Llanbedr and Bala (Duncalfe). Heard regularly in bog at mouth of Mawddach (Aplin).

MONTGOMERY. Welshpool district fairly common; breeds in Powis Park regularly; eggs in collection, Mr. Griffiths, Maes-y-Garreg, taken in 1894 from garden close to canal (Butterfield); Montgomery, rare (Brown); Marrison, heard and seen, 1901 (Horwood).

26.—HEDGE-SPARROW. *Accentor modularis* (Linn.).

LLWYD Y GWRYCH = Hedge Grey (Bird); LLWYD Y DOM = Grey (Bird) of the Mire; JAC LLWYD Y BAW = Grey Jack of the Mire; SIANI LWYD = Grey Jenny; LLWYD BACH = Little Grey; LLWYD Y BERTH = Grey of the Hedge; BRYCH Y CAE = Speckled (Bird) of the Field; GWRACHELL Y CAE = Dwarf of the Field; Y FRONFRAITH FACH (BALA) = The Little Thrush.

Resident, common and generally distributed in all suitable districts, even to a considerable elevation on the moors and mountains.

The sober-coloured but sweet-voiced Hedge-Sparrow is common all over the district, so that details as to its distribution are unnecessary. Mr. Aplin found it fairly common on Bardsey Island, whilst in Anglesey it rivals even the Blackbird in numbers.

27.—ALPINE ACCENTOR. *Accentor collaris* (Scopoli).

Rare visitor; recorded once only, in Carnarvonshire.

Mr. Howard Saunders states* that he observed one on the Llanberis side of Snowdon on 20th August, 1870. It was exceedingly tame, hopping about a small enclosure, where he watched it as long as he could without attracting attention.

* *Manual Brit. Birds*, Ed. II., p. 95.

28.—DIPPER. *Cinclus aquaticus* (Bechstein).

WIL-Y-DWR = Water-Willy; ADERYN DU 'R DWR = Water Blackbird; MWYALCHEN DDWR = Water Blackbird; BRONWEN-Y-DWR = Water Whitebreast; MERWYS = Dipper; TROCHWR = Plunger; IAR DDWR = Waterhen; BRONWEN Y GARW = Whitebreast of the Torrent.

Resident; common on rapid streams everywhere, except in Anglesey, where it is naturally scarce.

The Dipper, or Water Ouzel, as it is often called, is one of the most characteristic birds of North Wales, where the tumbling streams in which it delights are so numerous.

To watch one dashing in and out through the rushing wavelets is a sheer delight, enhanced in no small degree as it is by the beauty of the surrounding landscape and the refreshing mountain breezes. Anon the energetic little bird ceases its labours to perch on some boulder amid stream, whence it pours forth its pretty song. Somewhat lark-like are the notes, but subdued, as though the bird were singing to itself. Not only in love-time may the Dipper's song be heard, but in the bleak winter months when there is not a leaf on the trees around. Perhaps, though, the bird is even then filled with thoughts of love, for the Dipper is an early breeder, sometimes having eggs in February,* and rearing two, three, and even four broods in the year, utilising the same nest each time.

A charming nest it is, too, with its mossy canopy and cosy interior. Generally it is so like its surroundings as to be difficult to find, but I have seen nests on boulders in bare river beds that were quite conspicuous, standing out as grassy lumps on the rock surface.

The Dipper has been accused of eating fish-spawn, but what it chiefly seeks in the gravel are the larvæ of the stone

* A. George, in *Field*. Nest on River Banw, 12th February, 1872.

caddis-fly, which abound in such places; the stomachs of several examined were found to be full of these grubs.

The Dipper is common on suitable streams throughout North Wales, with the exception of Lley, where, although observed by Mr. Aplin in several places, it is by no means numerous. Anglesey is so unsuited to its habits that the bird is naturally scarce; still, even here it occurs, for it has been noted on the River Alaw by Mr. W. G. Edwards, and on the River Cefni and a stream near Beaumaris by Mr. T. A. Coward, who found a nest with young at the last-named place on 23rd May, 1904. The Dipper occasionally strays down to the coast; Rev. F. C. R. Jourdain observed one at Foryd, near Rhyl, in May, 1904.

29.—LONG-TAILED TITMOUSE. *Acredula caudata* (Linn.).

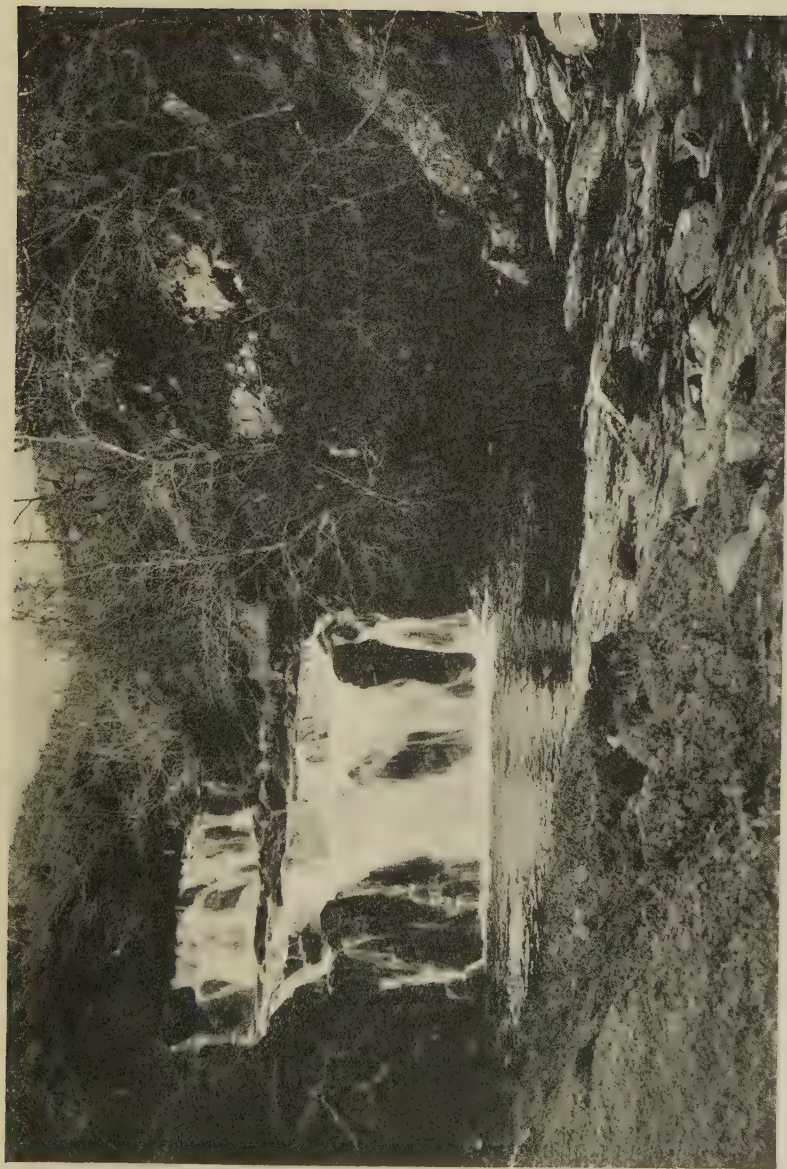
LLEIAN GYNFFON HIR = Long-tailed Nun; GWAS Y DRYW = Wren's Servant; GLAS GYNFFON HIR = Long-tailed Blue Titmouse; YSWEDW = Titmouse; PWD = Pudding.

Resident; generally distributed and common in most districts except Lley and Anglesey.

This pretty and engaging little bird is more or less common all over North Wales, except in the mountainous districts, but even there it is found in most of the valleys. In the barren parts of Lley and Anglesey, however, it is scarce.

It is a bird of weak flight, and is generally sedentary, though it does migrate overland to some small extent—for it appears now and then with other small birds, crossing the Dolwyddelan moors and journeying down the Conway Valley. As it is not mentioned as occurring at any of the North Wales lighthouses, it would seem that in these parts it does not migrate over sea.

The fact that it is a stationary species generally is confirmed by the reports of Mr. Ruddy and Mr. Moore as to the effects of the intense frost of February, 1895. About Palè and Conway the Long-tailed Tit was exterminated. In the latter district none were observed until the autumn of the



THE DIPPER'S HAUNT.

Photographed by OLIVER G. PIKE.

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same year, when a few appeared which were probably migrants from the east. In Palè district Long-tailed Tits were not seen in any numbers for several years, and none of the usual winter flocks till 1902-3, when Mr. Ruddy observed flocks in the gardens, hunting over the trees in search of the American blight. The Dee Valley is shut in by mountains, and a species such as this would enter it either from the east or west. As the valley is not an ordinary migration route, it is natural to expect that the restocking of such a district with a stationary species, once locally extinct, would take several years to accomplish.

On 8th June, 1904, I saw a nest at Rhiwlas, Bala, built in the top of a small spruce tree, eight feet from the ground, and quite close to the drive, whence it was plainly visible. In 1907 Mr. W. B. Halhed found a nest on the top of a bough of a fir tree at Llanrwst.

The same year Mr. J. Hamer Jones observed a pair at Bettws, Montgomery, which built in a pile of brushwood close to the house, completing the nest within the short space of twenty-four hours. The building was done entirely by the hen bird, though the cock assisted by bringing materials.

At Llanllugan Mr. Laisters F. Lort once found a nest containing nineteen eggs.

The Welsh names of the Long-tailed Tit are interesting; but I cannot account for its being called the Wren's servant. The last name given above possibly refers to the nest, and is the equivalent of one of its numerous English provincial titles, "Tom Pudding."

30.—GREAT TITMOUSE. *Parus major* Linn.

YSWIDW'R COED = Wood Titmouse; PELA GLAS MAWR = Great Blue Tit; PENLOYN = Black-head.

Resident, and more or less common everywhere except in north Anglesey.

The distribution of the Great Tit in North Wales is so very

general that it hardly calls for comment, and details are unnecessary. As with so many other species, however, a distinction has to be made in regard to Anglesey, where, although the Great Tit is common enough in the wooded district along the Menai Straits, and in a lesser degree along the eastern side of the island, it is somewhat scarce to the north and north-west.

In June, 1901, I saw a curious nest in an apple tree in the Llyfnant Valley. It was in a good sized hole, with an opening about four feet above ground, and another at the bottom just above ground. The bird had piled in moss and other nesting material until it had filled the hollow entirely from bottom to top. The amount used was immense. The bird was sitting on fresh eggs at the time.

31.—COAL-TITMOUSE. *Parus ater* Linn.

PENLOYN = Coal Head; PELA PENDDU = Black-headed Tit; PELA LLWYDWYN = Grey and White Tit; YSWIDW PENDDU = Black-headed Tit.

Resident. Generally, but unequally, distributed throughout the district.

The Coal-Tit occurs in all the six counties of North Wales, and is generally distributed. It is by no means equally common everywhere, yet its local numerical variations do not readily admit of generalisation, and can best be understood from the details below.

Roughly, however, the Coal-Tit prevails in the west, the Marsh-Tit in the east, whilst in Anglesey the Coal-Tit prevails to the almost total exclusion of its rival, although in the barer parts of the island it is naturally scarce.

Mr. S. G. Cummings remarks that he has never come across an instance of this bird excavating its nesting-hole as the Marsh-Tit often does.

ANGLESEY. Holyhead, seen but at intervals (Edwards). Quite common Menai Bridge (Humphreys). Common Llandegfan

(Rowland). Along Straits seen with young in three places 1902; met with in east but not in north Anglesey, 1903 (Coward and Oldham). Seldom seen in south Anglesey (Boraston). Occurs about Beaumaris (Coward, *Zoologist*, 1905, 381).

CARNARVON. Common Deganwy (Hutchinson) but not round Conway (Moore). Noted at Bettws-y-coed and Llanberis (Forrest), Carnarvon (Wynne Williams), and Pwllheli (McAldowie). Nest and young Bettws-y-coed, 29th May, 1904 (Meares). Common Beddgelert (Evan B. Jones), where flocks numbering fifty or sixty birds are seen in winter in the woods at Aberglaslyn and Dolfriog. Common round Pwllheli (Haigh), Nanhoron (Lloyd Edwards), Penygroes (Thring). Noted at Llanbedrog and Bodfean (Aplin). Rather scarce Bangor (Marshall).

DENBIGH AND FLINT. Not very common Colwyn Bay (Russell), one there 18th May, 1904 (Jourdain). Not at all common, Denbigh (Congreve), common Ruabon (Howard), Wrexham (Kyrke). Noted at Llanarmon, D.C., 31st March, 1904 (Meares). Fairly common St. Asaph (Wrigley), common near Denbigh in summer, 1904 (Cummings), occurs Overton (Hodges). Common Llangollen (Ruddy).

MERIONETH. Less numerous than the Marsh Tit Palè (Ruddy). Occurs Machynlleth (Anwyl), Dinas Mawddwy (Buckley). Common Towyn (Kirkby), Ffestiniog (Forrest), Dovey Estuary (Feilden), Llanbedr (Pearse and Moore). The commonest of the Tits at Corris (Birley). Exceedingly abundant about Penrhyndeudraeth (Haigh). Common Barmouth (Rawlings), and west coast generally (Aplin).

MONTGOMERY. Common generally (all observers).

32.—MARSH-TITMOUSE. *Parus palustris* Linn.

YSWIDW LWYD FACH = Little Grey Tit; PENLOYN Y GORS = Marsh Coal Head; PELA PENDDU = Black-headed Tit.

Resident, and common generally in the eastern half of the district, but very rare in most parts of the west, except the Conway Valley: not authenticated in Anglesey.

Although in North Wales as a whole the Coal-Tit is more abundant than the Marsh-Tit (as well as more widely distributed), there is considerable local variation in this

respect. Thus, about Conway, Colwyn Bay, Denbigh, and along the upper Dee Valley, the Marsh-Tit decidedly preponderates, the Coal-Tit being comparatively scarce. In many other parts of Flint, Denbigh and Montgomery both species are common, whilst throughout the west the Marsh-Tit appears to be of such infrequent occurrence that it can hardly be looked upon as resident at all, and the few actual records may be regarded as accidental.

As many observers seem to experience some difficulty in distinguishing these two species apart, it may be pointed out that in the Marsh-Tit the crown of the head is all black, whereas in the Coal-Tit there is a white "parting" in the centre of the back of the crown.

In spite of its name the Marsh-Tit is by no means confined to the vicinity of marshy ground, but is found equally in wooded country that is not boggy.

It breeds in holes in trees, palings, or rotten stumps, sometimes excavating a site for itself, at others utilising a ready-made cavity.

It is a remarkably close sitter, and if approached by an intruder distends itself with air, and emits a series of puffing noises to repel the invader.

Mr. Ruddy records a pure white variety, seen 7th January, 1902, near Bala.

ANGLESEY. Not observed anywhere in Anglesey (Forrest; Coward and Oldham).

CARNARVON. Plentiful Deganwy (Hutchinson). Two killed by flying against windows at Ceris Bangor, 1898: none seen since (J. B. Davies, *in lit.*, 4th September, 1902, Forrest). Commoner than Coal Tit round Conway (Moore). Pair in wood above Nevin, 1st June, 1903 (*id.*). Seen Bettws-y-coed several times (Forrest). Rare Ynysfor (Evan B. Jones). One seen Ynysfor, 3rd April, 1902—the only one ever observed in district (Haigh). Flock seen Bodysgallen Woods, near Llandudno in November, 1901 (Hutchinson). Not observed in Lleyu; one at Swallow Falls, 17th May, 1905 (Aplin).

DENBIGH AND FLINT. Common Ruabon (Howard); and in the parts of Flintshire round Ellesmere (Forrest). Seen Llanarmon, D.C., 4th April, 1904 (Meares). Certainly more

common than the Coal Tit about Colwyn Bay (Russell). As common as the Blue Tit at Denbigh (Congreve). More local than the Coal Tit at St. Asaph (Rogers). Very common Llangollen (Ruddy). Nest in hole in wall Ceiriog Valley (Cummings). Common Rossett (J. D. Jones). Noted at Marchwiell (Ruddy); breeds Llanarmon, Mold (Morgan); common and breeds in valleys amongst the Berwyns (Meares).

MERIONETH. Common Palè (Ruddy). Flock at Bala in April, 1899 (Cash). Only seen twice at Corris (Birley); Dovey Estuary one seen 23rd February, 1903; only once observed before (Feilden). Does not occur Llanbedr (Attlee), nor Penrhyndeudraeth (Haigh). Occurs Barmouth, and have found nest, but not common (Rawlings). Round Dovey Estuary by far the least numerous of the tits (Salter). Local in woods in the west; not common (Aplin); Machynlleth first noted 18th March, 1906 (Lewis).

MONTGOMERY. Seen Llansantffraid (Kempster). Fairly common Montgomery (Horwood), Newtown, and Welshpool, but less numerous than the Coal-Tit (Butterfield). Common Leighton (Bruce), Llanerfyl (Harington).

33.—BLUE TITMOUSE. *Parus coeruleus* Linn.

TITW TOMOS LAS = Little Blue Tom; PELA GLAS BACH = Little Blue Tit; YSWIDW LAS FACH = Little Blue Tit; PELA GLAS DWL = Dull Blue Tit.

Resident, and common everywhere.

This pretty species in North Wales, as elsewhere, is the most abundant of the Tits, and so generally distributed in all suitable country that details would be superfluous.

34.—NUTHATCH. *Sitta cæsia* Wolf.

CNOCELL Y CNAU = Nut Knocker; DELOR Y CNAU = Nut-pecker.

Resident; numerous in the Severn Valley, Montgomeryshire, and common in parts of the English border; very rare elsewhere; not known to occur along the north coast, nor in Anglesey.

The distribution of the Nuthatch in North Wales is peculiar and almost unaccountable. Its headquarters are undoubtedly

the south-east portions of the district, and it is particularly numerous along the Severn Valley, between the Breidden and Newtown. As a rule it is a somewhat local and sedentary species, so that the isolated occurrences in the west, recorded below, should perhaps be regarded as accidental. Its complete absence from the northern portions of the district is very remarkable.

At Leighton Hall, Welshpool, the Nuthatches are quite tame, and come daily to take the bits of suet, nuts, and other dainties provided for them by Mrs. Naylor on little boards by the windows.

ANGLESEY. Not known to occur.

CARNARVON. One only seen in the spring of 1902 on post in drive at Bodwyn, Carnarvon; watched for some time quite close by (Wynne Williams). Not observed in Lley'n (Aplin), nor Portmadoc district (Haigh).

DENBIGH AND FLINT. Common in Flintshire on the Shropshire border (Tower, Forrest), and about Llansilin (late A. T. Jebb). Occurs Chirk Park (Beale), Wrexham but not common (Kyrke). Scarce Ruabon (Howard) and Llangollen (Owen, Ruddy). In the Corwen district it occurs at Maesmor, but is scarce (Dobie's list). Pair seen near Rossett, 7th January, 1902; heard and seen Castle Mill, Ceiriog Valley, 9th May, 1896 (Cummings). One obtained near Ruthin about 1875 (Rogers). One seen by gardener at Segrwyd, Denbigh, 1897 (Congreve). Few Rossett (Benden), breeds Llanarmon, Mold (Morgan). A local specimen in collection at Rûg (Wynn). One observed at Crogen, near Corwen, by the late Mr. Henry Robertson in the winter of 1868 (Ruddy). Another heard same spot 14th October, 1904 (Cummings).

MERIONETH. Several seen Towyn (W. Franklin and Kirkby). Not observed Barmouth (Rawlings), nor Penrhyndeudraeth district (Haigh), Dovey Estuary, south side, very rare (Salter), Llanfachreth (Pugh). One seen on the lower slopes of Arenig near Bala, 13th December, 1905 (Ruddy).

MONTGOMERY. Plentiful Welshpool district (Butterfield, Harrison, Mytton, Naylor), Montgomery (Brown, Horwood), Newtown (Jones). Occurs Carno (Davies), seen in garden Llanerfyl (Harington). Plentiful round Churchstoke (Forrest), and Garthmyl (Johnes).

35.—WREN. *Troglodytes parvulus* K. L. Koch.

DRYW = Wren ; Y DRYW BACH = The Little Wren.

Resident, and numerous everywhere.

The Wren is generally distributed throughout North Wales. Not only is it common in lowland and sheltered situations, but even on the mountains and moors, and in country that seems too bleak for such a frail-looking little bird. Mr. Rawlings speaks of it as common and ubiquitous from the top of Cader Idris to the edge of the sea, whilst Mr. Aplin found it remarkably abundant in Llyn.

As one crosses the mountains, every now and then a Wren will hop out in the most unlikely place, and pour forth its bright little song with a suddenness that is almost startling.

The Wren has occurred on migration at the light-stations at the Skerries and the South Stack, and at the lightships in Carnarvon Bay and the Dee mouth, in September and October, and again in April and May ; usually only a few travel in company. One was caught at the Dee light-vessel at 2 a.m. on 23rd August, 1885.

The Wren is sometimes found in the barest places in autumn. Mr. S. G. Cummings writes :—"On 22nd October, 1904, I saw one on the Dee Estuary at the end of a stone-cased embankment which would be surrounded at high tide, the only cover being a few bundles of thorn sticks. A Wren was near the same spot the previous December and January, though except for grass and a few roots of ragwort there is no vegetation of any size within a mile or two. No doubt the attraction would be spiders and insects lurking in the crevices between the stones, these being large enough to admit the bird."

36.—TREE-CREEPER. *Certhia familiaris* Linn.

CROPIEDYDD = The Creeper; YMLUSGYDD-Y-COED = Wood Creeper; Y DRINGWR BACH = The Little Climber; DRINGEDYDD BACH = Little Climber; ADERYN PEN BAWD = Thumb-head Bird.

Resident, and common in all wooded districts.

Essentially a woodland bird, the Tree-Creeper seems to occur more or less numerous wherever there are trees, but not to any considerable elevation—rarely above 1000 feet. It is found even in such barren districts as Lleyn and north Anglesey in localities where there are trees, and in winter as well as summer.

During winter it frequently wanders about the country in company with Titmice and Goldcrests.

On 20th December, 1903, Mr. S. G. Cummings watched one climbing up the bare wall of a cottage on Sealand, searching the joints in the brickwork; even here the bird went up obliquely, in its usual fashion, starting from the bottom and disappearing round the corner from left to right.

The Creeper is rather numerous in south Anglesey, and here Mr. O. V. Aplin has noted its fondness for climbing about mossy walls.

Mr. R. Newstead states that it feeds freely on the Mussel Scale-insect of the apple (*Mytilaspis pomorum*) which accounts perhaps for its so often visiting gardens.*

The nest is usually in a crevice between a tree-trunk and a piece of loose bark, or the stems of ivy, etc., but in 1898 the Rev. F. C. R. Jourdain found one in a loose stone wall near Dolgelley.

Some writers say that the song is seldom heard; the Creeper does sing, however, very early in the year and, little varied though it be, the song is very pleasing to the ear.

* Dobie's list.

37.—PIED WAGTAIL. *Motacilla lugubris* Temminck.

TINSIGL = Wagtail; SIGLDIGWT = Shake Tail; BRECH Y FUCHES = Pied (Bird) of the Cowshed; SIGL-DIN-Y-GWYS = Wagtail of the Furrow; BRITH YR OGED = Pied (Bird) of the Harrow.

Resident or partial migrant; generally distributed throughout the lowlands, and to a moderate elevation on the mountains.

The Pied Wagtail is common throughout North Wales in the lowlands, whilst a pair may generally be found about the fold-yard at every hill-farm up to an elevation of a thousand feet or more. The highest point at which I have met with the species was on 9th June, 1904, by Llyn Mynyddlod, near Bala—about 1800 feet.

A large proportion of the birds are only summer visitors, whilst another large contingent visit the west coast as passing migrants in spring. These generally come in company with the White Wagtail, and follow the same route northwards.

In the *B.A. Migration Reports* the two species are not distinguished; but there are autumnal records of wagtails at Bardsey, 27th August, 1884; two at St. Tudwal's, 10th October, 1884, and one the same day at the Dee L.V., flying towards the nearest land.

In 1887 Mr. G. H. Caton Haigh saw about a dozen *M. lugubris* at Penrhyndeudraeth on 25th February; then none till 20th March when several appeared. On 22nd and 23rd April many were seen passing the Dee L.V. eastwards; whilst on 5th September the same year wagtails were very numerous on the Merioneth coast.

At Rhosneigr (west Anglesey) Colonel Long records that in the spring of 1901 there were large numbers of Pied Wagtails scattered all over the place, feeding indifferently at the edge of the sea, on the seaweed or grass, or along the

river—as many as twenty or thirty in one hundred yards; it would be no exaggeration to say there were many hundreds in the neighbourhood.

In autumn the wagtails leave the higher ground and resort to the coasts; and family parties may often then be seen on sandy shores feeding on the smaller crustacea which abound there. The autumnal exodus, however, is never so marked as the immigration which takes place every year from the end of March to the middle of May.

It will be noticed that several of the Welsh names allude to the fondness of this wagtail for farmsteads, and for following the plough or harrow.

38.—WHITE WAGTAIL. *Motacilla alba* Linn.

TINSIGL Y GWYS = Wagtail of the Furrow; SIGLDIGWT (south Wales) = Shaketail.

All species of Wagtail are called BRITH (or BRECH) Y FUCHES in North Wales, SIGLDIGWT in South Wales.

Regular migrant up west coast in April and May; some evidence of its breeding occasionally. Very rare elsewhere, except some few migrants seen in April at mouth of River Conway.

The chief characteristic distinguishing the Pied and White Wagtails from one another in summer plumage is that the back in the former is blackish, whilst in the latter it is pearl-grey. The female Pied Wagtail, however, is much lighter on the back than the male, and some hens are so light that it is impossible to be certain as to the species except by a close comparison. Immature birds of both species are practically indistinguishable, but as by the time they reach North Wales (April and May) the birds of the previous year have assumed adult plumage this last point is immaterial. If an observer sees a single bird with a light grey back he

cannot be certain whether it is *M. alba*, or a female *M. lugubris*. A pair together in the spring or summer, both with light backs, would probably be *M. alba*; several together, all with light backs, would almost certainly be *M. alba*.

It follows then that although isolated inland records of the White Wagtail may be open to doubt, there can be no question as to the regular occurrence of the species on the west coast every spring on migration, an interesting fact confirmed by repeated observations all along the line from Aberystwyth to Portmadoc. Further details will be found in the chapter on Migration Routes.

In 1902 Mr. Caton Haigh first saw the White Wagtail on April 18th, when there were about two dozen along the River Glaslyn. On the 19th there were about the same number, but on the 20th not more than a dozen were left (on the 20th Mr. A. Moore also observed several on Mochras and others from time to time till mid-May), while on the 23rd all these had gone from the Glaslyn. On the 24th Mr. Haigh saw a party of five on the shore at Mochras, which, when put up, flew out across the bay in the direction of the mouth of the Glaslyn. The next day he again saw several White Wagtails by the Glaslyn, and on the 27th I noted three near Harlech. During April Mr. Hutchinson has observed White Wagtails on the Little Orme's Head, whilst Mr. Halhed has seen them passing down the Conway Valley.

Mr. Caton Haigh remarks that a number of Pied Wagtails nearly always accompany a flight of *M. alba* when on migration.

In the *Zoologist* (1905, 381), Mr. T. A. Coward gives an interesting account of the arrivals and passing of parties of White Wagtails during April and May, 1905, at Rhosneigr, west Anglesey. On April 14th there were about twenty birds, the number remaining pretty constant throughout the month; a fresh influx took place on May 2nd, when there were about sixty, but these soon passed on and by the end of the month all had gone; a single bird was seen on June 2nd.

The above details are given as an example of what takes place annually during the months of April and early May.

It is evident that the great bulk both of Pied and White Wagtails that pass along the west coast at this time of year are migrants on their way to breeding haunts further north.

Until quite recently there was no evidence of the White Wagtail breeding in North Wales, but on 18th July, 1903, Mr. J. R. B. Masefield came across a pair with young ones near the sea-shore to the west of Criccieth. He had a close view of them for some time and particularly noticed the light pearly grey backs of both parents as well as of the young. One of the old birds was carrying food in its bill to feed the young, so there can be little doubt that they had been reared close at hand.

Mr. H. G. Attlee also assures me that he identified two pairs that were evidently nesting at Llanbedr in the summer of the same year, whilst the party seen at Rhosneigr in September, 1904, by Mr. Cummings, may have been reared locally. A pair were noted on the Little Orme's Head by Mr. G. A. Hutchinson throughout the summer of 1904.

ANGLESEY. One seen on west coast, May, 1902 (Forrest) and a number seen there in May, 1894 (Dobie, *Zoologist*, 1894, 227). Small parties observed on west and north coast in April and May, 1901-02 (Cummings). Male singing on shore near Rhosneigr, 26th May, 1901; at end of September, 1904, several immature Wagtails on shore Rhosneigr; certainly made out one old male, *M. alba*, amongst them. Numbers passing Rhosneigr, April and May, 1905 (Coward, see above).

CARNARVON. Pair on Little Orme's Head, 11th April, 1902, and others from time to time during April, 1903 and 1904; a pair stayed on Little Orme's Head all through summer, 1904 (Hutchinson). Occurs in April, Ynysfor (Evan B. Jones). Party of seven or eight Afonwen, 18th April, 1898 (Haigh, *Zoologist*, 1903, 209). Pair feeding young Criccieth, 18th July, 1903 (Masefield).

DENBIGH AND FLINT. Rare Colwyn Bay; two in ballast pit near station, 23rd April, 1897 (Russell). Wagtails noticed at St. Asaph apparently this species (Rogers and Wrigley). Brockholes mentions a pair on the Dee Estuary in April, 1869 (Dobie's

list). Pair seen at Pont-y-glyn (north-west of Corwen), 22nd June, 1878 (Ruddy). One on Fenn's Moss, 12th May, 1905 (Hodges), one on Ceiriog, May, 1907 (Meares), about a dozen *Llandulas*, 5th May, 1907 (Oldham).

MERIONETH. Dovey Estuary, passing migrant in spring (Salter). Seen in oyster pools on own grounds, Aberdovey (Kershaw). Barmouth, numerous on spring migration (Rawlings); female Barmouth, 7th May, 1904 (Aplin and Roberts), Llanbedr, perfectly sure identified two pairs breeding (Attlee). Pair seen on Tal-y-llyn, 29th August, 1896 (B. W. Martin, *Ornithologist*, 1896, 185), Penrhyndeudraeth, passing migrants every April and May, sometimes in large numbers; particularly numerous 1891-97-98 (Haigh). Adult on Barmouth Bridge, October, 1900 (J. Backhouse, *Zoologist*, January, 1901). Two males mouth of Dysynny, 20th May, 1902 (Aplin).

MONTGOMERY. Not recorded.

39.—GREY WAGTAIL. *Motacilla melanope* Pallas.

SIGLEN LWYD = Grey Wagtail; TINSIGL LWYD = Grey Wagtail.

Resident or partial migrant; common on hill streams in summer, but resorts to lower ground in winter; occurs in Anglesey mainly as a migrant.

This handsome species is one of the most characteristic birds of North Wales, where it haunts the same kind of country as the Dipper.

Wherever the waters come tumbling along down the hill slopes there is the long-tailed Grey Wagtail, with his conspicuous yellow breast; but, whereas the Dipper seeks the shallower parts of the stream, the Grey Wagtail resorts to the more rocky portions, or the deep glen, where it can find some overhung ledge on which to place its nest. In such a spot one may be sure of coming across it either flitting by with undulating flight, or perching on some boulder with sweeping up-and-down motions of the tail.

The Grey Wagtail is not common in Lley, although it has been noted by observers in several places, and seen also in winter. In Anglesey, too, it is comparatively rare, being seen only occasionally on autumn and spring migration, but very rarely staying to breed. Mr. T. A. Coward records having seen it in the summer of 1905 at Llangefni, and a pair with young on a small stream at Coed Cadwr. It was also noted the same summer near Beaumaris by Mr. J. M. Boraston.*

It is somewhat difficult to determine the extent to which the Grey Wagtail is resident or migratory in the various parts of the district; but the few available data seem to indicate that on the approach of winter the bird leaves the higher levels, and resorts to sheltered places either on the coasts or in inland valleys.

The nest is usually in a hole or on some ledge above the water; but Captain E. A. Swainson once found a pair nesting in a stone wall close to the sea at Barmouth, whilst Captain Wm. Buckley found another nest in the ventilator of a house-wall at Dinas Mawddwy, and Mr. S. G. Cummings another, quite exposed, on a tree stump overhanging the water.

40.—BLUE-HEADED WAGTAIL. *Motacilla flava* Linn.

Very rare spring visitor; obtained twice on west coast of Merioneth.

This species possibly passes unnoticed owing to its general resemblance to the Yellow Wagtail. Two have been obtained near Penrhyndeudraeth—both by Mr. G. H. Caton Haigh. The first was on 22nd April, 1897, and is mentioned in Mr. Howard Saunders' *Manual*; the second was on 30th April, 1898.

* *Birds by Land and Sea*, p. 239.

41.—YELLOW, OR RAY'S WAGTAIL. *Motacilla raii*
(Bonaparte).

SIGLEN FELEN = Yellow Wagtail; TINSIGL FELEN = Yellow Wagtail.

Summer migrant, distributed irregularly throughout all counties, but very rare in Anglesey; in the west chiefly a passing migrant in April.

This species is distinguished from the Grey Wagtail by its much shorter tail, by its back being greenish instead of grey, and by not having any black on the throat. Instead of haunting hill streams the Yellow Wagtail frequents meadows with lush grass, and places its nest on the ground amongst the coarse herbage.

Unlike the Grey Wagtail, too, it *never* spends the winter here. At Palè the earliest date of arrival noted was 27th April in 1893 and 1895, and it generally arrives about 30th April.

This bird is the least aquatic of the wagtails, and is more given to perching on trees than the other species. Mr. Cummings says that on Sealand it nests in fields of strawberries, corn, cabbage, and so on, always at a considerable distance from any fence. It arrives there earlier than at Palè, generally about 16th April, the earliest date noted being 8th April, 1898; in 1905 several were seen there as late as 22nd September; at Colwyn Bay Dr. Russell has noted its arrival from 26th April onwards.

The distribution of the species is so irregular that it is not easy to sum up in few words. Like the other Wagtails it migrates up the west coast during April, but never in numbers. Nearly all these pass on northwards, none remaining to breed except in the neighbourhood of Towyn and the Dovey Estuary, and perhaps round the Llanberis lakes. Occasionally a pair or two nest in the Conway Valley.

There is a regular breeding resort round Bala, but throughout Flint and Denbigh the bird seems very local and is numerous only on the flats of Sealand. In Montgomeryshire it is not numerous and chiefly occurs along the Severn Valley. It is not known to occur in Lleyn, nor in Anglesey except as a passing migrant on the west coast.

With the exception of the family party seen at Cerrig-y-druidion, all the records mentioned below relate to lowland localities well under 1000 feet elevation.

ANGLESEY. Not observed in Anglesey (Forrest). One seen and heard on the wing near Holyhead, 29th May, 1904 (Cummings). Three or four passing birds Rhosneigr, April 18th—21st, 1905 (Coward, *Zoologist*, 1905, 382).

CARNARVON. Occurs Deganwy on spring migration; one in May, 1903; found nest Glan Conwy in 1892 (Hutchinson). Not uncommon in fields about Llandudno end of April, but does not stay to breed (Moore). Arrived Llandudno 28th April, 1883 (P. Inchbald in *Field*, 12th May, 1883). Seen at Bettws-y-coed and Llanberis, 1902 (Forrest). Occurs Llanberis regularly (Brinckman). Rare Carnarvon, not known to nest (Wynne Williams). Rare Ynysfor; pair seen April, 1904 (Evan B. Jones). Pair with fully-fledged young near Cerrig-y-druidion, 15th July, 1901 (Moore). Not seen in Lleyn (Aplin). Not uncommon Dolwyddelan; nest with Cuckoo's egg found by Mr. R. W. Calvert (Bucknill).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*); occurs there in spring (Hallhed). Noted in summer at Mostyn and Holywell (Hutchinson), St. Asaph (Wrigley), Ceiriog Valley, (Beale and Mearns), Berwyn (Owen), Rossett (Benden). Scarcer than formerly near Wrexham; found nests (Kyrke). In August, 1904, party of about a dozen in marshy field Pentre Voelas; another small party near Corwen; noted same district 14th July, 1901 (Moore). One Newmarket, 8th August, 1903; pair near Abergele, 29th May, 1897, and pair near Prestatyn, 24th April, 1897: very common on Sealand; nest and eggs, 19th May, 1902 (Cummings). Scarce Colwyn Bay but noted on marshy flat behind Rhos (Russell). Two Fenn's Moss, 12th May, 1905 (Hodges).

MERIONETH. Rare: occurs to the extent of several pairs in the low-lying meadows between Towyn and the sea, nesting in the coarse herbage; not noted elsewhere (Swainson), breeds Towyn (Kirkby). Aberdovey, observed near own house

(Kershaw). Seen by the river above Machynlleth; one in grass marshes between Penmaenpool and Dolgelley, 19th May, 1902 (Aplin). Numerous in wet meadows near the Dovey (Salter). Large number near Aberystwyth, 20th August, 1901, evidently on migration (*id.*, *Zoologist*, 1902, 4). Barmouth observed but rarely and never found nesting (Rawlings). Not observed in the immediate neighbourhood of Barmouth (Roberts). Frequent in summer Palè; nest, five eggs, 27th May, and another six eggs 30th May, 1903 (Ruddy). Nest with slightly incubated eggs in fields laid for hay, Bala, 14th May, 1896 (Davenport). Occurs regularly Llanuwchllyn; saw pair with fledged young hawking for flies by Bala Lake in August, 1901 (Forrest). One seen on marsh Llanbedr, 20th April, 1902 (Moore). Penrhyndeudraeth, a few appear almost every year on spring migration, but none remain (Haigh). One seen in Artro Valley, Llanbedr (Duncalfe); rare Machynlleth (Lewis).

MONTGOMERY. Welshpool frequent (Harrison). Guilsfield, generally one or two pairs (Beck). Scarce Newtown (Jones). Breeds Welshpool and Newtown, but scarce in latter district (Butterfield); eggs taken locally in collection of Mr. Griffiths, Maesygareg, Welshpool (*id.*). Several pairs about Llan-santffraid (Kempster).

42.—TREE-PIPIT. *Anthus trivialis* (Linn.).

EHEDYDD Y COED = Wood Lark; EHEDYDD Y LLWYN = Lark of the Grove; PIBYDD Y COED = Wood Piper.

Summer migrant; common in all wooded districts; and occurs in smaller numbers on bare hillsides up to about 1500 feet; rare in Anglesey.

Up to quite recent years ornithological writers* described the Tree-Pipit as "scarce in Wales." Such is by no means the case; for any naturalist who travels through North Wales in summer will endorse what Captain E. A. Swainson writes:—"Wherever I have been in North Wales I have found the

* The second edition of Howard Saunders' *Manual* correctly describes it as "very common."

Tree-Pipit, provided the country was suitable; the bird is common generally."

Even the presence of trees is not essential; for I have met with it on bare hillsides above Aberdovey; at the top of the Bwlch Oerddrws; and on the side of the Aran range of mountains, at a considerable elevation. Mr. O. V. Aplin, too, has seen one on open grassy moorland below Garn Goch, quite away from trees. In May, 1900, I saw a specimen that had been picked up dead on the top of Snowdon. In the rather barren district of Llyn, too, the Tree-Pipit is not uncommon, and at Nevin, on 31st May, 1903, I saw a pair flitting angrily round a Cuckoo, which was evidently about to place an egg in their nest.

In Anglesey, however, the Tree-Pipit is scarce, and appears to be mainly confined to the vicinity of the Menai Straits.

The earliest date on which Mr. Ruddy has noted it at Palè was 7th April, 1893, while it generally arrives there about 22nd April. On Sealand the earliest date noted by Mr. Cummings was 16th April, 1898 and 1902, the average date being 20th April.

It would seem that when on migration, *all* the Tree-Pipits that arrive in the south-west of England pass on northwards; none diverge across St. George's Channel so as to strike the south-east corner of Ireland; for, strange to say, the species is *unknown in Ireland*.

In the *B.A. Migration Reports* the Tree-Pipit and Meadow-Pipit are probably both included under the title of "Titlark." Taking both together, then, we may state that they migrate chiefly by day. They are reported at Bardsey and St. Tudwal's, but much more frequently and in larger numbers at the Dee lightship. The greatest rush takes place between mid-October and mid-November, when they are always passing to the south or south-west.

ANGLESEY. Not observed in West or North Anglesey (Forrest). Few observed along Straits; absent west and north, and rare east (Coward and Oldham.) Not common on Menai Straits (Humphreys).

CARNARVON. Fairly common but not numerous in Lleyn (Aplin); very numerous Llanberis, May, 1904; observed also about Capel Curig, Bettws-y-coed, and Penmaenmawr (Forrest), Carnarvon (Wynne Williams), Pwllheli (McAldowie), Llanfairfechan (Benson), plentiful Deganwy (Hutchinson), around Conway (Moore), several at Nevin, 1903 (*id.*). Common Nanhoron (Lloyd Edwards) and Beddgelert (Evan B. Jones). Rare on the Dolwyddelan moors owing to their bareness, but inhabits the woods towards Bettws-y-coed (Bucknill), a few heard singing at Abersoch, June, 1901 (Cummings). Common between Bettws-y-coed and Capel Curig, May, 1905 (Aplin, Jourdain).

DENBIGH AND FLINT.	} Common in suitable places (all observers).
MERIONETH.	
MONTGOMERY.	

43.—MEADOW-PIPIT. *Anthus pratensis* (Linn.).

EHEDYDD BACH = Little Lark; GWAS Y GOG = Cuckoo's Servant; "SWEETY" WAEN = Meadow Sweet; HEDYDD Y WAEN = Meadow Lark; CORHEDYDD = Dwarf Lark.

Partial migrant; common everywhere, especially on moors and hillsides.

This is one of the most abundant species of birds found in North Wales, and nowhere is it more numerous than in the mountainous parts of Carnarvon and Merioneth. It has also been noted on Bardsey and other large islands. Although numbers are to be seen throughout the winter, there is no doubt but that a large proportion of the local birds are migratory.

It is noticeable that in winter and early spring the Meadow-Pipits are in flocks, and almost always on the move; so that, maybe, these are not really residents, but migrants passing to the north. On 18th April, 1902, Mr. Cummings saw a flock of Meadow-Pipits near Cemmaes, north Anglesey, which were evidently migrants. I well remember seeing on the south-west border of Montgomeryshire, one day late in

March, some thousands of Meadow-Pipits scattered all over the tops of the hills. All of them were running along the ground, all in one direction (northwards), and all were quite silent. Mr. Caton Haigh noticed small flocks at Penrhyn-deudraeth on 30th March, 1887, and saw some very large flocks on the mountains during the winter 1901-2.

As is well known, the Cuckoo frequently selects the Meadow-Pipit's nest in which to place its egg, and in this connection it is noteworthy that on the Dolwyddelan moors, where the Meadow-Pipit literally swarms in summer, the Cuckoo also is particularly numerous. The Welsh name Gwas-y-gog apparently alludes to this association of the two species.

[RICHARD'S PIPIT. *Anthus richardi* (Vieillot).

Obtained once only—in Flintshire.

Mr. Robert Moses, of Shrewsbury, has a manuscript diary, kept by Dr. J. W. Moses when living at St. Asaph. In it the following entry appears under date "1840, Dec. 9th. Shot a lark (?) upon the sandhills. I was attracted to the spot where it was feeding by the shrill, and to me strange, note it uttered. It measured, from the point of the bill to the tip of the tail, $7\frac{3}{4}$ inches. In plumage it resembled the Titlark. The hind claw was $\frac{3}{4}$ -inch long." There seems to be little doubt, from the measurement, long hind claw, loud note, and pipit-like colouring, that this was a specimen of Richard's Pipit, a bird at that time hardly known in Britain.]

44.—WATER-PIPIT. *Anthus spipoletta* (Linn.).

Three obtained on the Glaslyn Estuary, Carnarvonshire.

Mr. G. H. Caton Haigh has obtained three specimens of this rare British species, all on the low-lying flat land on the



ON THE GLASLYN RIVER—Where the Water-Pipit has been obtained.

Photographed by WALLACE HEATH.

[To face page 122.]

Carnarvonshire border of the River Glaslyn, near Portmadoc. The first was in nearly adult plumage, on 4th April, 1897;* the second, an immature example, on 3rd December the same year;† and the third on 21st February, 1898.

Additional interest attaches to the occurrence of these three birds, since the spot is so remote from the other localities in Britain where the species had previously been met with, and also because, in a voluminous correspondence in the *Field* in 1902, it was suggested that certain pipits of dusky hue, seen from time to time in summer on the Welsh mountains by Mr. H. S. Davenport and the writer, and which the observers had thought to be Rock-Pipits, might perchance be Alpine Pipits. It was pointed out that, although in the winter months this bird is found in marshy places, and so earns the title of Water-Pipit, in summer it resorts to the mountains of Central Europe, and thus equally deserves its other title, Alpine Pipit.

The question cannot well be decided without the actual obtaining of specimens; but, after due consideration, I have come to the conclusion that these inland dusky birds are *not* Rock-Pipits, and that that species never goes far from the shore of its own accord. If it ever occurs at all inland, the circumstance is purely accidental, and I do not believe that it has ever nested inland, as has been alleged.

45.—ROCK-PIPIT. *Anthus obscurus* (Latham).

EHEDYDD BACH = Little Lark; WID-WID = The Bird's Note.

Resident and common on the coasts and islands.

The Rock-Pipit is common on all the coasts where they are rocky, and occurs, too, on the islands around North Wales.

* *Zoologist*, 1897, p. 366.

† *Idem*, 1898, p. 187. Name incorrectly spelt.

It is exclusively littoral and, as has been mentioned under the previous species, it probably never goes inland except by accident. Indeed, it has not been recorded from any inland part of North Wales, although an immature example was killed near Shrewsbury in 1877.

On the Orme's Heads it associates with the Meadow-Pipit, thus affording an interesting opportunity of comparing the notes and flight of the two species. The call-note of the Rock-Pipit is a short metallic "twit"; of the Meadow-Pipit a longer "tweet."

The nest is difficult to locate unless the bird be actually flushed from it, and is indeed sometimes so deep down in some hole or crevice as to be quite inaccessible without removing stones or earth from the entrance. If it be approached the sitting bird slinks off, keeping out of sight as much as possible and taking short runs. Not until it is at some distance from the nest does it show itself momentarily, as it flits for a few yards through the air uttering plaintive cries.

Brockholes mentions the Rock-Pipit as breeding occasionally on Hilbre Island; on 24th May, 1858, Mr. A. O. Walker found three nests there, two with young birds, the other with four eggs.*

The species appears to be mainly a resident in North Wales. There is no evidence of any considerable exodus on the approach of winter, nor does the bird assemble then in flocks like the Meadow Pipit. Messrs. Aplin and Cummings have noted, however, that in autumn and winter it is less numerous on rocky parts of the coast than in summer, whilst a few are then to be seen on flat parts of the shore away from the usual haunts.

ANGLESEY. Common on all rocky parts of the west coast (Forrest) and Bull Bay; three nests, June, 1902 (Cummings). Not common in east, more common in north-west; several broods Red Wharf Bay and Puffin Island, 1902 (Coward and

* Dobie's list.

Oldham). Found Holyhead, particularly between town and south Stack; searches for marine animals on stones just left by the sea (Eyton, 1838).

CARNARVON. Common round coast (all observers).

DENBIGH AND FLINT. Common resident on the coast (Dobie's list), Colwyn Bay (Russell). One on Dee embankment, Connah's Quay, 9th December, 1903 (Coward and Cummings).

MERIONETH. Fairly common on sea-cliffs (many observers).

MONTGOMERY. Unknown.

46.—GOLDEN ORIOLE. *Oriolus galbula* Linn.

Very rare summer migrant; said to have nested in Merioneth.

Giraldus Cambrensis, when at Carnarvon in 1188, mentions "the bird called the Aureolus from the golden tint of its feathers, and at certain seasons utters a sweet whistling note instead of a song."

In the *Zoologist*, 1870, 2222, is a note recording a Golden Oriole seen in "North Wales" on 21st April, 1870. The occurrence is further described in the *Field* of the same month by Mr. W. Conway Preston, of Ruthin, who writes:—"I and my brothers, on the evening of the 21st, saw a male Golden Oriole; we also saw him again the following morning. I have never heard of their being seen about here before." A good many Orioles were observed that year in various parts of England.

Dr. W. B. Russell heard of one being seen a few years ago near Llanrwst, whilst another was seen there about the same time by Mr. Halhed.

Mr. H. F. Harries assures me that a pair nested near Towyn in 1898; but he did not see the birds himself, and the evidence is not quite conclusive.

47.—GREAT GREY SHRIKE. *Lanius excubitor* Linn.

Autumn or winter migrant, occasional; not known to occur in the west, or in Anglesey.

This fine species, known as a winter visitor to Britain, is not

recorded in Dr. W. H. Dobie's list as occurring in Wales, though the notes below indicate that it occurs not infrequently in Denbigh and Flint.

Mr. W. A. Rogers, of St. Asaph, whose father was a taxidermist in that city, states that it is not strange to meet with a Great Grey Shrike in Denbigh and St. Asaph districts during the winter months, and that his father stuffed about a dozen at different times.

Mr. W. B. Halhed reports seeing one at Llanrwst on a remarkably early date, viz., 12th August, 1901. He adds: "The bird was evidently disturbed about something or other, as it kept flying about from perch to perch with harsh cries: very early for the bird to be here." In Shropshire the Great Grey Shrike has been recorded many times in winter. The two last instances quoted below were actually in Shropshire, but within sight of Montgomeryshire.

There is little doubt that the species has occurred from time to time in other parts of Flint, Denbigh, and Montgomery, but has passed unnoticed. Eyton's record (*circa*. 1835) of an example seen near Capel Curig in May is most unusual as regards date. If it was at the beginning of the month the bird was probably a belated migrant.

ANGLESEY. Not recorded.

CARNARVON. Said to have been seen at Beddgelert. "Only once observed near Capel Curig in the month of May" (Eyton).

DENBIGH AND FLINT. Llanrwst, one seen August, 1901 (Halhed). St. Asaph, one shot 26th December, 1897, and about a dozen at different times previously in Denbigh and St. Asaph districts (Rogers). One shot near Wrexham, December, 1874 (E. P. Kerrison in *Field*, 5th December, 1874).

MERIONETH. One shot at Bala in the nineties, and another seen subsequently (Buckley).

MONTGOMERY. Seen some years ago at Pontrobert (Beck). Seen once in own garden at Welshpool (Harrison). Saw a fine specimen that had been obtained (no date) in the neighbourhood of Welshpool, and heard of another recent occurrence in

Powis Park (Butterfield). In autumn, 1899, one shot at and wounded by Rev. J. B. Meredith at Kinnerley, close to Montgomeryshire border: a fine old bird shot in same district, 30th November, 1900 (Forrest).

48.—RED-BACKED SHRIKE. *Lanius collurio* Linn.

Y CIGYDD CEFNGOCH = Red-backed Butcher.

Summer migrant, distributed irregularly throughout the district, but common only in one or two localities; scarce in Anglesey.

Eyton, writing in 1835, describes the Red-backed Shrike as "very common in North Wales, particularly near Capel Curig and Barmouth. At the latter place they feed chiefly on insects belonging to the genus *Geotrupes*, which particularly abound. At Capel Curig, grasshoppers appear to constitute their chief food; some dozens of them may be seen on the side of the hill above the lakes, which is thinly covered with scattered hawthorn bushes, and abounds with their prey. This species when taken young is very easily tamed, and makes a mischievous but amusing pet."

Whatever may have been the status of the Red-backed Shrike in Wales at the period when Eyton wrote, it can hardly be described as common there now. True, the bird is plentiful in certain districts as, for example, the west coast of Merioneth, where Captain E. A. Swainson speaks of it as common, frequenting bramble thickets and hedgerows,* and the fact is confirmed by Mr. Rawlings in regard to the Barmouth District, and by Mr. Harries at Towyn; but speaking of the entire district collectively, the species cannot be described as at all numerous.

It chiefly affects rough ground bordering the moors, or adjoining the coast, where overgrown with thorn brambles and rose bushes, as well as cultivated ground intersected with thick, high hedgerows.

* *Zoologist*, 1891, 108.

It is one of the latest to arrive of the summer migrants, seldom putting in an appearance before the middle of May; the earliest date noted at Palè by Mr. Ruddy being 13th May, 1896.

Mr. Newstead speaks of it as frequent fifteen years ago on the moors above Minera, where, in June, 1890, he found the nest and young now preserved in the Grosvenor Museum at Chester. The young ones had been fed extensively on the Red-tailed Humble Bee (*Bombus lapponicus*), which abounds on the moors. In the neighbouring district he also found other bees impaled by the birds.* Mr. Cummings has observed the male feeding the female before and during incubation, when she was off the nest. In 1904 he saw a Shrike chase a Yellow Hammer, but did not see what happened at the end; probably the bird escaped.

Mr. Dumville Lees noted a pair nesting in almost exactly the same spot each year, 1885-6-7. "A bird collector in Anglesey for many years found a few in or near a certain field. His mode of catching them was by watching the twigs on which they perched when returning to the nest; these he prepared with bird-lime, and seldom failed in capturing several."† These observations show that the Shrike, like many other summer migrants, returns each year to the same locality to breed.

ANGLESEY. Not observed Holyhead (Edwards), nor Aberffraw (Gosling), but nest found there in 1899 by R. D. Williams (Forrest). Scarce north and east Anglesey; pair seen, and nest with young, south of Carmel Head, 19th June, 1902. Male seen coast, east of Point Elianus, 24th June, 1902 (Cummings). Pair Point Lynas 26th May, 1903 (Coward and Oldham).

CARNARVON. Occurs Llandudno (Williams, *Llandudno Guide*, 1863). Seen often Deganwy (Hutchinson); nest found there 1901 (Hague). Several pairs with young round Ro Wen in summer 1901. Pair seen Penmachno (Moore). Noted near Dolwyddelan (Forrest). Pair with young near Edeyrn 1st

* Dobie's list.

† Stanley, *Familiar History of Birds*, 166.

August, 1901. Pair near Aber Falls 2nd July, 1904 (Cummings). Pair breeding Llanbedrog June, 1897 (*Zoologist*, 1900, 493). Breeding Aberdaron, 1901. Three pairs observed about Aberdaron, and a female at Nevin, 1902 (Aplin). Occurs in certain secluded valleys in Lleyn (Johnes). Scarce Carnarvon (Wynne Williams). Common Ynysfor (Evan B. Jones). Pair seen Conway (Pownall), and between Llanberis and Carnarvon 19th May, 1905 (Aplin). Very common Penmaenmawr and on slopes of Bryn Euryn near Llandudno (John Price, *Llandudno Guide*).

DENBIGH AND FLINT. Llanrwst, several seen at different times (Halhed). Pair obtained (Popham). Breeds at Rhos, Colwyn Bay, Llansilin, Minera, Llangollen (Dobie's list). Colwyn Bay scarce, but increasing (Russell). Seen Pensarn, Llandrillo-in-Rhos, Llanferres, Llanddulas and Dee Cop (Cummings). St. Asaph not uncommon (Rogers). Rare about Denbigh; nest and eggs Bodfari, 8th June, 1904 (Congreve). Seen Glyn Ceiriog (Beale). Breeds at Llanddwyn, Llangollen (Owen). Frequent there (Ruddy). Only once seen Nant-y-frith (Kyrke). Specimen at the Lyth, Ellesmere, from Llansilin (Forrest). Male, Llanfairtalhaiarn, June, 1905 (Oldham).

(Note.—The Woodchat Shrike appears in *Faunula Grustensis* (1830) as occurring at Llanrwst: evidently an error.)

MERIONETH. Palè, breeds not uncommonly (Ruddy). Bala, ditto (Davenport). Corris, scarce but increasing (Birley). Occurs along road between Dolgelley and Barmouth (Beale). Common Barmouth (Rawlings). One or two pairs Barmouth district (Jourdain). Taken near Machynlleth (Feilden). Common on Upper Dovey (Lewis), Penrhyndeudraeth; recent arrival, shows marked increase in late years (Priestley). In 1887 none seen till 5th June. Occurs sparingly in most parts of district (Haigh). Llanbedr scarce, only seen in one place (Attlee). Pair nest habitually near Talwenydd, Ffestiniog (Morris). Common on west coast, but rare inland (Swainson). Nest Llandderfel, 12th June, 1897 (Cummings). Common Towyn Marsh, breeds regularly (Harries). Pair seen Barmouth, June, 1903 (Beddall Smith). In the west only met with three pairs in seven years (Aplin). Several obtained Towyn (H. Franklin).

MONTGOMERY. Rare Montgomery (Brown and Horwood), Newtown (Butterfield), Llanertyl (Harington). Breeds every year round Welshpool; many nests found and eggs in local collection (Butterfield).

49.—WAXWING. *Ampelis garrulus* Linn.

ADEN GWYR = Waxwing.

Rare winter visitor, recorded in several parts of the district.

Permant, in his *British Zoology* (1812 ed., I., 419), mentions a Waxwing being "killed at Garthmeilio, in Denbighshire, in a fir tree, during the severe frost of December, 1788." Dr. Dobie in his "list" records another "shot at Connah's Quay, January 17th, 1893, and taken to Mr. T. Hutchinson for preservation." Mr. W. A. Rogers, of St. Asaph, has a beautiful specimen which he showed me, shot there in December, 1898, and he tells me he saw five more just afterwards. Mr. Ruddy observed one haunting the neighbourhood of Palè throughout the first week of December, 1901; it then disappeared, though so far as is known it was not shot. Another solitary bird was seen in the same place on 6th January, 1904, and still another on 7th November, 1906.* Mr. L. H. Owen Johnes states that during the winter of 1904-5 several were obtained near Nevin. The bird is also said to have occurred in Anglesey.

50.—SPOTTED FLYCATCHER. *Muscicapa grisola* Linn.

CYLIONYDD = Insect Catcher; GWYBEDOG = Insect Catcher.

Summer migrant, common throughout the lowlands.

The Spotted Flycatcher is generally distributed throughout the lowlands of North Wales, and up to an elevation of about 800 feet. It is common about Bala, and has been met with at Capel Curig and on the top of the Great Orme's

* *Field*, 17th November, 1906.

Head, whilst in Lleyn and Anglesey it occurs in many scattered localities, and has been observed on Bardsey by Mr. O. V. Aplin.

The Spotted Flycatcher is almost the latest of our summer visitors to arrive, and in North Wales is seldom seen before the first week of May. The earliest record is at Welshpool, where one was observed by Mr. G. D. Harrison on 30th April, 1895. In 1887, one was killed at the Skerries lighthouse on 3rd May, and several on 17th August, whilst others were noticed on the island, 21st to 23rd September. From this it appears that the return migration commences about mid-August.

This confiding little bird, far from avoiding the haunts of man, seems rather to court his society, often placing its nest against the wall of a house on the bough of some creeper or fruit tree, with little pretence at concealment. It is most faithful to its chosen nesting place, returning year after year to the same spot, and often rearing two broods in the season.

In 1901 there was a nest at Leighton Hall, Welshpool, built on the stone transom of one of the large windows, against the glass, so that it was visible from both sides.

In a nest found near Bala, in 1896, by Mr. H. S. Davenport, strips of bark were used in the construction—a fact, so the writer states, only noted previously by Gould.* This, however, is not unusual, whilst the bird also makes considerable use of cobwebs in constructing its nest.

The eggs of the Spotted Flycatcher vary greatly in colour and markings. On 21st June, 1896, Mr. S. G. Cummings found a nest on Sealand with four eggs, blue with few and faint markings, and I have seen blue eggs quite devoid of markings. The Sealand nest was further remarkable for its very unusual situation—in a hedgerow among the twigs in a similar position to that often chosen by the finch tribe. Mr. Cummings adds that the species often nests far from the dwellings of man, in lonely woods, ruins, against the bole of a tree, or in a hole in a wall or hayrick.

* *Field*, 12th September, 1896.

51.—PIED FLYCATCHER. *Muscicapa atricapilla* Linn.

GWYBEDOG DU A GWYN = Black and White Insect Catcher ;
GWYBEDWR AMLLIW = Many-Coloured Insect Catcher ;
GWYBEDOG MANAWG = Pied Insect Catcher ; GWYBEDOG
CEFNDU = Black-Backed Insect Catcher ; GWYBEDOG BRITH =
Pied Insect Catcher.

Summer migrant, occurring in all counties except Anglesey ; rare along north coast, and rather local inland, but common in many wooded valleys, especially in Merioneth.

Any naturalist, visiting the wooded valleys of western Wales, and not already cognizant of the fact, will probably be surprised to find how common is the Pied Flycatcher.

In parts of Merioneth there are many belts of woodland in which several nesting pairs may be found in less than a mile. The species particularly affects narrow valleys with somewhat steep sides clothed with small oak trees, and with a stream at the foot—it is never seen far from running water. The oaks in such places are, owing to the humid climate, rotten here and there, the holes thus formed providing just the kind of place required for the Pied Flycatcher's nest.

The bird is remarkably faithful to its chosen nesting site. At Llandderfel Mr. Ruddy showed me a hole in an oak tree which, to his knowledge, had been occupied by a pair of Pied Flycatchers for nesting for over twenty years in succession. Not far off was another hole that had been tenanted several times by Pied Flycatchers, but in intervening years had been occupied by Starlings.

Mr. Charles Oldham observes that unlike the Spotted Flycatcher the Pied never returns to the same twig after darting out to catch an insect on the wing ; the bird usually alights on a different branch, and often in another tree.

Sometimes it clings tit-like to a tree-trunk for an instant, and often feeds upon the ground.*

Mr. H. S. Davenport noted at Bala that instead of catching its prey in mid-air (as the Spotted Flycatcher does) it flew down to it on the ground.†

As a matter of fact there is little resemblance between the two species, the Pied Flycatcher resembling in habits rather a warbler or Redstart.

Where trees are large it prefers to sing at a good height, and often nests at almost inaccessible altitudes.

On 5th June, 1897, at Llanfairtalhaiarn, Dr. W. H. Dobie and Mr. S. G. Cummings watched *two males* taking food to a nest which apparently contained young, although the date was early. The Rev. F. C. R. Jourdain noted Pied Flycatchers breeding in walls at Bettws-y-coed and Capel Curig in May, 1904. He adds that even in woods and where trees are plentiful this bird often nests by preference in holes in the gables of old barns, and in loose stone-walls by roadsides, as well as in old Woodpecker holes or rotten stumps only a foot or two above ground. I have noticed that on first arriving the males—which come about 22nd April, a week or so before their brown-clad mates—keep together in parties numbering from three to five or six. Directly the hens arrive the two sexes are to be found in pairs, and they resort quickly to their breeding haunts. The pretty blue eggs usually number six or seven, but eight are occasionally found. The hen sits very closely, and will even remain till actually lifted off her eggs. Eyton records the Pied Flycatcher in Shropshire (where it is rare), but not in Wales (where it is common, locally). Captain E. A. Swainson published in the *Zoologist*, 1893, a paper on the distribution of the species in Wales.

ANGLESEY. Not known to occur.

CARNARVON. Breeds regularly Deganwy (Hague), also Ro Wen, Dolwyddelan, and Capel Curig (Moore). Noted at Bodnant (Hutchinson), and all round Bettws-y-coed. Numerous Llanberis and Capel Curig (Forrest). Three nests with eggs

* *Zoologist*, 1899, 134.

† *Field*, 12th September, 1896.

between Bettws-y-coed and Capel Curig, 29th May, 1904 (Meares). Several pairs Aber, 1904 (Benson). A few pairs breed annually Beddgelert (Evan B. Jones). One obtained in Pass of Aberglaslyn, 13th August, 1879 (F. S. D. in *Field*, 10th September, 1879). Regular visitor Llandudno district (P. Inchbald in *Field*, 12th May, 1883). Not observed in Llyn (Aplin). Fairly common in valleys south-west Carnarvon (Haigh). Seems common in Glaslyn Valley up to Llyn Dinas (Aplin). Occurs Penygroes (Thring).

DENBIGH AND FLINT. Plentiful Llanrwst (Halhed and Popham). One killed Talacre, spring 1863. Occurs at Hendre, Chirk, Llangollen, Maesmor near Corwen, and Coed Coch (Dobie's list). Occurs Elwy Valley; seen near Cefn Caves (Russell). Rare St. Asaph (Wrigley, Rogers). One shot Denbigh about 1870 (Rogers). A few in Glyn Ceiriog Valley between Glyn and Llanarmon (Beale). Ceiriog Valley and Llanfairtalhaiarn (Cummings). Breeds in large oak-woods Llangollen (Owen). Numerous Pontyglyn above Corwen; nest found Maesmor (W. J. Kerr in *Field*, 1871). Several pairs Llansilin district (Lees). Regularly frequents certain spot Llangollen (*Bygonnes*, 1886, 62). Frequent there (Ruddy). Seen at Berwyn (Pownall). Not uncommon in Elwy Valley between Llanfairtalhaiarn and Cefn; in June, 1905, watched pair with young in hole in stone-bridge at Llansannan; both birds brought insects, including many green caterpillars (Oldham); nest Pentre Voelas, May, 1907 (Halhed).

MERIONETH. Pale, regular visitor, several pairs (Ruddy). Specimen Rûg, 1863 (Wynn). Not uncommon Bala (Davenport), Dinas Mawddwy (Buckley), Dovey Estuary (Feilden). Breeds Towyn (Kirkby). Barmouth increasing (Roberts). Common Barmouth and Dolgelley (Rawlings, Jourdain). Common Dolgelley (Bailey), and particularly numerous 1902 (Beale). Plentiful Corris, and even more so than the Spotted (Birley). Fairly common in valleys round Penrhyndendraeth, notably Maentwrog (Haigh). Noted at Ffestiniog (Moore); Llanbedr many pairs 1902 (Forrest); earliest 23rd April (Moore). Nest and eggs Dolgelley 1887 (Cash). Common Llyfnaunt Valley (Salter). Fairly common in wooded valleys Llwyngwrl (Beddall Smith), and others in the west; have seen pair nesting in hole in wall of farmhouse, about 12 feet up (Aplin). Machynlleth, many pass through on migration, and some remain to nest (Lewis).

MONTGOMERY. Welshpool, seen occasionally (Harrison); plentiful round Welshpool and Newtown: found three nests one morning in wood by Severn, Newtown (Butterfield). Observed once

Llanerfyl (Harington), Montgomery (Brown); both sexes seen 1901 (Horwood). Occurs at Guilsfield (Mytton) and Newtown (Williams), Lake Vyrnwy, and Meifod (Swainson, *Zoologist*, 1893). Seen Berriew, 1886-7 (*Field*, 28th May, 1887). In three different localities in south-west (H. Raeburn, *Zoologist*, 1894, 406).

52.—SWALLOW. *Hirundo rustica* Linn.

Y WENNOL = White Belly.

Summer migrant, generally distributed and common.

In North Wales, as elsewhere, the Swallow is more or less common everywhere, so that details regarding its distribution would be superfluous.

The time of arrival is usually about the middle of April in most districts.

In the *Field*, 5th July, 1862, Frank Buckland recorded instances of Swallows being found hibernating in a tree at Dolgelley; also at "Sychton, North Wales, the birds being discovered in a shaft near the top of a lead mine." I know of no place called Sychton, so the above must be a misprint. The birds were probably in a moribund state—not hibernating in the ordinary sense of the word. A Swallow was seen at Bala, 24th December, 1891.

In October, 1904, a Swallow was seen to return to the nest at Corwen ten days after all the local birds had departed. It appeared to be exhausted, and was apparently a young bird which, being too weak to migrate, after being buffeted to and fro by the rough winds then prevailing, had returned to the only home it knew.

White or cream-coloured varieties are not uncommon. Dr. Russell reports one seen at Colwyn Bay in July, 1904.

It is worthy of remark that Swallows are very rarely recorded at the lighthouses in spring. One was noted at the Carnarvon Bay lightship, 23rd March, 1885, and several at

Holyhead, 11th April, 1887. On the autumn migration Swallows are met with at the lighthouses from mid-August to mid-October, generally in daylight, and flying towards the nearest land.

On 29th July, 1903, Mr. Cummings saw a Swallow's nest in a cave at Tremeirchion, Flintshire. It was placed on a ledge, and at a distance of several yards from the entrance, and was, consequently, in semi-darkness. At the time it contained fledged young.

53.—HOUSE MARTIN. *Chelidon urbica* Linn.

GWENNOL Y BARGOD = Eaves Swallow; GWENNOL FRONWEN = White-breasted Swallow; GWENNOL Y MUR = Wall Swallow; GWENNOL Y BONDY = House Swallow.

Summer migrant, common in lowlands and valleys, except Llyn and parts of Anglesey.

The Martin is neither so numerous nor so generally distributed as the Swallow, whilst its numbers seem to vary somewhat in different years.

Its predilection for fixing its nest beneath the projecting eaves of houses tends to keep it in towns and villages, yet it is by no means confined to such places. Considerable numbers nest in the cliffs of east Anglesey and the two Orme's Heads, as well as in the roofs of caverns beneath the same, and in similar situations elsewhere.* It is fond of nesting on the arches of bridges. There are numbers of nests on the viaduct crossing the Ceiriog Valley, near Chirk, and on the Menai suspension bridge; but in west and north Anglesey, as a whole, this bird is rare, the only parts of the island where it is common being where there are cliffs along the east coast. In Llyn, too, it is comparatively scarce, though noted in several localities, as well as on Bardsey Island.

* Cf. Doxie's "List" (nests like Swallows), and *Zoologist*, 1884, 470 (nest on Penmaenbach).

As a rule it does not frequent the uplands, and I have not met with it at a greater elevation than the neighbourhood of Capel Curig.

Mr. R. W. Calvert has observed a small colony nesting on a rock at the foot of Moel Siabod.

There is a buff-coloured variety in the collection at Rûg, and Mr. T. Ruddy observed a white one at Llandderfel in 1891-2. A white one with fawn-coloured shoulders was recorded at Corwen in 1894.*

The Martin generally arrives a few days later than the Swallow—earlier in Montgomeryshire than on the west coast—latest on the north coast, where it is seldom seen till the beginning of May.

The Martin rears two, and occasionally three, broods in the year, so that it is no uncommon thing to find young in the nest as late as the beginning of October, and the birds themselves lingering on till the end of the month, though the bulk depart in September. The return movement sometimes commences quite early in that month. On 8th September, 1901, Mr. Ruddy observed very large flocks on the telegraph wires at Llandderfel, but next morning all had gone. Several were noted at the Skerries on 24th September, 1881.

On more than one occasion I have known the young birds of a first brood to assist in rearing their parents' later family, and even to help in building a second nest where the first had fallen down.

54.—SAND-MARTIN *Cotile riparia* (Linn.).

GWENNOL Y GLENNYDD = Bank-side Swallow; GWENNOL Y LLYNNAU = Pool Swallow; GWENNOL Y TRAETH = Shore Swallow.

Summer migrant, generally distributed in suitable localities, except in Anglesey, where it is not common.

The Sand-Martin is most numerous along the larger river

* H. Stansfield, *Field*, 13th October, 1894.

valleys—the Severn and Dee, with their main tributaries—but breeding colonies are also to be seen in many places along the western sea-board, where there are earthy cliffs, *e.g.*, at Criccieth, Afonwen, Llanbedrog, Port Nigel, and Nevin in Llyn. At the latter place the bird “is quite common, haunting the sea coast so much as to make the name of ‘Shore-bird,’ bestowed on it by some early writers, seem natural and appropriate.”* Similar colonies exist on the shore at Ty Croes, Rhoscolyn, and a few other localities in Anglesey; but these are all small, the bird being far from numerous in this county, except along the Menai Straits, where it is fairly common.

Mr. O. V. Aplin has seen nesting holes in the banks of the Dovey, near Machynlleth, and of the Dysynni near Craig Aderyn, Towyn, so low down that it looked as if a flood would submerge them.

Generally speaking the Sand-Martin is a lowland species, so that I was surprised to meet with a pair on 12th June, 1900, at an elevation of 1300 feet on the Bwlch Oerddrws, near Dinas Mawddwy.

This is the earliest of the Swallow tribe to arrive. At Llandderfel it was noted by Mr. Ruddy on 31st March, 1893, the average date thereabouts being 9th April. In 1880 it was seen there up to 13th October, though usually it leaves at least a week before that date. At Welshpool the earliest date noted was 14th April, 1904, whilst at Colwyn Bay it was 17th April.

55.—GREENFINCH. *Ligurinus chloris* Linn.

PILA GWYRDD = Green Finch; LLINOS WERDD = Green Linnet; LLINOS FELEN = Yellow Linnet.

Resident, generally distributed, and abundant almost everywhere.

The Greenfinch, or Green Linnet as it is often called, is one of the most abundant birds in the district, and is numerous

* Aplin, *Zoologist*, 1900, 493.

more particularly on cultivated lands with hedgerow boundaries.

It is generally resident, but migrating flocks have been seen between 24th October and 16th November at Carnarvon Bay lightship, and the lighthouses on Bardsey and the Skerries. The birds travel by day, sometimes in large flocks, and often in company with other finches. In Lleyn, Mr. O. V. Aplin has noted the species as less numerous in winter than summer. The resident Greenfinches are gregarious in winter, and are then sometimes noticed in very large flocks, either alone or with other finches, buntings, and sky-larks. Even in summer the gregarious habit is not entirely lost, for I have noticed a tendency to breed in company to the extent that five or six nests may be found in one hedgerow, and only a few yards apart.

The Greenfinch rears two broods in a season, and very possibly three, for quite late in September I have often seen very young birds recently out of the nest.

The nest, which is shallow and rather loosely constructed, is generally lined with feathers and hair, but Mr. Cummings once found one entirely lined with horse-hair; this could not have been for want of feathers, as there was a farm yard close by.

The number of eggs is said to be from four to six, but the larger number is very rare—I have only once come across an instance. The eggs are usually less marked than those of the Linnet, and I have occasionally found clutches almost entirely devoid of markings, but never quite so.

56.—HAWFINCH. *Coccothraustes vulgaris* Pallas.

PENDEW = Thick Head; GYLFINBRAFF = Thick Bill.

Resident, fairly common though local in Denbigh, Flint and Montgomery; rare in the west, and unknown in Lleyn and Anglesey.

A quarter of a century ago the Hawfinch was regarded as

somewhat of a rarity in Cheshire and Shropshire, whilst in North Wales it was practically unknown.

The lapse of time subsequently has wrought a wonderful change in the status of the bird here, and in parts of Shropshire it has multiplied to such an extent as to be quite a pest to the gardener on account of the havoc it works amongst the green peas.

The bird is so quiet and shy, however, that few people, unless acquainted with its call-note, notice its presence, even in districts where it is fairly common, and it will probably surprise many to find from the details below that the Hawfinch is now pretty generally distributed through the eastern half of North Wales, and fairly common in the Severn Valley and Vale of Clwyd.

It appears from the general statistics that here, as elsewhere, the Hawfinch is gradually increasing and extending its range westward, but it is often slow in establishing itself in a new locality, and for some years does not seem to increase at all. Then, suddenly, one season someone finds all his peas taken, and wakes up to the fact that there are a lot of Hawfinches about.

The occurrence of Hawfinches so far to the west as the Dovey Estuary so long ago as 1868, is most singular, and the more so since the species has not been seen thereabouts since, until a solitary bird came to Corris, on the north side of the river, in 1902. I rather incline to the opinion that the Glandovey birds reached that point not from the east, where at that time the species was locally scarce and cut off from the west by high mountains, but from the south by following the great migrant route up the west coast.

I have little doubt that in course of time the Hawfinch will establish itself in the west, as it has already done in a comparatively short time in the east of North Wales.

In May, 1901, on two occasions Mr. Cummings observed a pair on Sealand, the cock feeding the hen with caterpillars off the oak trees.

ANGLESEY. Not known to occur.

CARNARVON. Occurs every winter Bangor; one in own garden winter 1902-3; resident and very destructive to peas in gardens Penrhyn Castle (W. Lester Smith). Occurs Deganwy, but rare. Noted all through summer 1904 at Marl and in Bryn Eisteddfod woods (Hutchinson). Noted some years ago at Llandudno (Dobie's list).

DENBIGH AND FLINT. Llanrwst occasional; seen in own garden 1st September, 1901 (Halhed). Colwyn Bay very rare; occurred September, 1901 (Russell). St. Asaph local; much commoner now than formerly (Rogers). Seen in garden several times, generally in spring; never more than six in a season (Watts). Ruthin, has occurred once (Radcliffe); one seen there 9th April, 1903 (Ruddy). Denbigh, two young and one old bird shot in garden July, 1895; two caught in netting over peas 1902; distinctly increasing, and certainly breeds in grounds at Segrwyd; several seen June, July and December, 1903 (Congreve). Seen in Denbighshire (Beale), Pengwern, near Mold, in 1894 (Kyrke), Ruabon, breeds (Howard), and Llangollen (Owen and Pownall). Observed pair Berwyn, near Llangollen, 18th April, 1896; pair Ceiriog Valley, 18th May, 1901; young Colomendy, 28th June, 1904; found dead young one near Bodfari, 28th July, 1904 (Cummings). One seen carrying food to young near Chirk, 28th May, 1905 (Meares). Pair preserved Bodelyddan Castle, obtained locally; pair in collection at the Lyth, Ellesmere, from Llansilin (Forrest). Greenfield Hall, pair seen February, 1898 (Rev. J. S. Cummings in *Field*, 2nd April, 1898). Observed Llantisilio, Llangollen, in July, 1888 (Ruddy). Noted, mostly solitary examples, at Coed Coch, Llanddyrnog, Wrexham, Mold, Maesmor, near Corwen, and Nannerch (Dobie's list), Mold (Cooke). Fairly plentiful Overton (Tower), Llanarmon D.C. (Cocker). On Sealand pair seen 10th and 15th May, 1901, and 5th May, 1903; one 22nd April; one near Sandycroft, 22nd August, 1903. Pair with nest and eggs Bodfari, 2nd June, 1906 (Cummings). Some in hedges between Rossett and Holt (Huxley). Occurs Overton (Hodges).

MERIONETH. Llandderfel scarce; first noted July, 1888; nested there several times since, and once or twice at Bala (Ruddy). One seen Dinas Mawddwy about 1880 (Buckley). One on lawn at Corris, 4th April, 1902—first ever known in district (Birley). Several obtained near Glandovey about 1868; none observed there since (Salter); two of these in collection; only ones ever seen there (Feilden).

MONTGOMERY. Welshpool, breeds in the district; plenty seen winter 1901 (Butterfield). Leighton, several pairs about (Naylor); Newtown, fairly plentiful (Williams); Garthmyl, more plentiful than is generally supposed (Fort). Occurs Montgomery (Brown), Llanerfyl (Harington). Specimens received from Berriew, 29th October, 1902, and Abermule, 26th September, 1903; also from Llansantffraid district in 1904 (Forrest). Rare, but breeds near Meifod (Lees). One killed against window Garthmyl, where they are not uncommon (Johnes).

57.—GOLDFINCH. *Carduelis elegans* Stephens.

NICOL; JACK NICO; GWAS Y SEIRI = Sheriff's Servant; EURBINC = Gold-Pink; PENEURYN = Gold-Head; TEILIWR LLUNDAIN = London Tailor; POBLIW = Every Colour.*

Resident, generally distributed and common.

In spite of birdcatchers (one of whom has been known to despatch over three thousand in a season!) the Goldfinch holds its own well in North Wales, and now that the close season is observed it shows a marked increase in many districts.

Although its numbers vary locally, it is so generally distributed that in none of the counties can it be considered rare. It is, perhaps, most numerous in Montgomeryshire, and least common in Anglesey.

Many observers note the Goldfinch as more numerous in winter than summer, but the difference is probably more apparent than real, the truth being that whilst in summer the Goldfinches are scattered in pairs, in winter they go in small parties or sometimes in flocks. At Bala, however, I have noticed Goldfinches as distinctly gregarious even in the breeding season—they fly off in small parties when engaged

* Several of the local names for this bird in Wales are the equivalents of those used in the neighbouring parts of England—"Nichol," "Sheriff's Man" and "Proud Tailor."

in getting food for the young and return in the same way, and Mr. S. G. Cummings has noticed the same habit in Anglesey.

This species is not migratory as a rule, and is rarely noted at the lighthouses; but a few occurred on the 7th, 10th and 13th November, 1887, at the Skerries and Holyhead, whilst one was caught at the Skerries at 2 a.m. on the 13th. Mr. O. V. Aplin noted it on Bardsey in 1901.

In the Conway Valley Mr. A. Moore reports that numbers perished in the severe frost of February, 1895.

The Goldfinch appears to be restricted to elevations not exceeding 1000 feet.

The nests are usually in fruit trees in orchards, but about the Dovey Estuary it seems to show a preference for fir-trees.

58.—SISKIN *Carduelis spinus* (Linn.).

DREINIOG = Urchin; YSGIDOGYLL = ?

Irregular winter migrant occurring in all counties; rarely breeds.

The Siskin visits North Wales in flocks between November and March, its numbers varying greatly in different seasons and localities. It is very usually associated with Redpolls feeding on the seeds of alder and birch.

It has long been suspected of breeding in North Wales, and proof of the fact is now forthcoming. Mr. W. J. Kerr recorded in the *Zoologist*, 1873, p. 3410, the appearance of a flock of about twenty, almost all young ones, in Denbighshire, 6th August, 1872, and suggested that they might possibly have been bred in the vicinity. In 1882, Mr. A. O. Walker heard one singing at Llangollen, on 7th April. In May, 1902, a male was seen at close quarters in Anglesey by Messrs. Coward and Oldham. A nest was reported near Bangor in 1899, but the evidence is not quite satisfactory. The most reliable proof is afforded by Dr. W. B. Russell,

who tells me that on 21st June, 1899, a young bird, not fully fledged, was picked up dead in Pwllcrochan Woods, Colwyn Bay, by Mr. A. Congreave.

This gentleman happens to be specially familiar with the Siskin, as he keeps it as a cage bird. One day a caged hen of his escaped but returned next day with three or four other Siskins, which entered the cage, fed there, and seemed almost tame; two which he caught were males.

The tameness of the Siskin is quite remarkable, and a characteristic trait of the bird, rendering it particularly easy of observation, and this tameness is intensified in very cold weather.

The Siskin probably breeds in North Wales more frequently than is supposed, though still not very often. The nest would be likely to escape notice, since it is placed high up amongst the foliage. It is noticeable that the males seem almost always to outnumber the females.

ANGLESEY. Llandegfan, scarce (Rowland). Male observed closely in ash tree at Penmon, in May, 1902 (Coward and Oldham).

CARNARVON. Bangor, very rare (Lort). Plentiful Deganwy some winters (Hutchinson). Nanhoron, seen a few times in winter on alders (Lloyd Edwards). Pair said to have nested in 1899 on fir tree, Capel Ogwen, near Penrhyn Castle (Humphreys).

DENBIGH AND FLINT. Heard Llangollen, 7th April, 1882; noted at Abergele in March; flock of 20 in Denbighshire, 6th August, 1872 (Dobie's list). Not common Colwyn Bay (Russell), Ruabon (Howard); occurs in winter Llangollen (Pownall and Ruddy) and St. Asaph (Wrigley). Small party on banks of R. Elwy, 18th November, 1905 (Coward). Party, chiefly males, in company with Redpolls on Flintshire side, Blaen Point, 9th February, 1901; party Mostyn, 5th December, 1897 (Cummings). Young bird found dead, Colwyn Bay, 21st June, 1899 (Russell). Common in winter Nant-y-frith, Wrexham (Kyrke). St. Asaph, numerous winter 1905-6 (Rogers).

MERIONETH. Observed most winters Barmouth (Rawlings) and Palè; flock, 100, on alders, 7th December, 1902 (Ruddy); flock Llandrillo, 22nd January, 1902 (Burton). Plentiful some winters on alders, Hirnant Valley, near Bala (Buckley).

Flock Palè as late as 27th March, 1897 (*Bygones*, 1897, 66); frequent flocks in winter Machynlleth (Lewis).

MONTGOMERY. Welshpool, seen in streets of the town, quite tame in hard frost (Forrest). Occurs in flocks (Harrison). Observed Newtown, winter 1898-9 (Butterfield), but scarce there (Williams). Very rare Montgomery (Brown). Occurs Carno (Davies). Frequently taken by bird-catchers in northern part of county (Lang).

59.—HOUSE-SPARROW *Passer domesticus* (Linn.).

GOLFAN = Sparrow; ADERYN Y TO = Thatch Bird; STREW = ? (Carnarvon) SPROCSYN.*

Resident; abundant throughout the district.

In North Wales, as elsewhere, the Sparrow is the most abundant of birds, and is numerous almost everywhere in the lowlands, and up to a moderate elevation on the mountains and moors.

The great bulk are resident, but the flocks seen on the fields and hedgerows in winter are probably migratory to some small extent.

At the light stations flocks are often seen in the early mornings during the winter months. At the solitary rocky island called the Skerries, to the north of Anglesey, where the keeper states that he had never before seen a Sparrow, some appeared in November, 1887, and he shot four on the 10th.

Bingley, in his book on North Wales, gives an account of the first Sparrows breeding on Bardsey Island about 1784.

Mr. Caton Haigh remarks that although the Sparrow is common in the larger villages and towns, it is quite scarce in north Merioneth and south Carnarvon.

The Sparrow is perhaps least numerous in Anglesey, and I

* Possibly Welsh form of "Spug," a north country name for the Sparrow.

have noticed that in the western parts of that county the nests are commonly placed in the thick hedges and are fairly substantial domed structures. At Palè Mr. Ruddy records a domed nest in an apple tree in 1901, and says that thirty years earlier, when the mansion was being rebuilt, the Sparrows, being ousted from the old buildings, adapted themselves to circumstances, and built their nests in the evergreen shrubs. The nests were roughly made, with a sort of tunnel for an entrance. As soon as the new buildings were finished, the Sparrows deserted the shrubs and found nesting places under the eaves and in the outbuildings.

Varieties with more or less white in the plumage are not uncommon, and in September, 1900, Mr. Cummings saw a buff-coloured one at Ty Croes, Anglesey. The same observer notes that on Sealand the Sparrow frequently builds in the tops of trees amongst the smaller twigs: on one large tree near some cottages he recently counted, after the leaves had fallen, over a dozen nests—quite an outdoor colony.

Mr. C. Oldham says that the Sparrow frequently nests in sea-cliffs—that this is a very noticeable habit in many places on the Anglesey coast. In the hill country the Sparrow is practically confined to the farm lands.

60.—TREE-SPARROW. *Passer montanus* (Linn.).

GOLFAN Y MYNYDD = Mountain Sparrow; ADERYN Y MYNYDD = Mountain Bird.

Resident; very local; probably occurs in all counties, but not identified in Merioneth.

Owing to its general resemblance to the House-Sparrow, the Tree-Sparrow easily escapes notice, and there are but meagre records of the species in North Wales. A. G. More thought it probably bred there, but had no authority for the statement.

One of the easiest marks of identification is the well-defined black patch on the cheek; both sexes being alike in plumage. The Tree-Sparrow has two light bars on the wing, the House-Sparrow only one. The former never frequents houses, but affects old trees, generally placing its nest in some hollow bough. The notes of the two species also differ greatly.

In the *B.A. Migration Reports* there are records of flocks of "Mountain Sparrows" passing the North Stack lighthouse in daylight on 24th, 26th September; 12th, 15th October; and 24th December, 1881; also on 12th January, 1882. Whether these were Tree-Sparrows is uncertain, but it is not at all improbable, as the species is often taken at other lighthouses.

The localities in which the Tree-Sparrow has been identified are so scattered over the district, that it probably occurs in many intervening places, though up to the present it has not been authenticated in Merioneth, whilst it certainly seems to be absent from the western half of that county.

ANGLESEY. Large colony in grounds of Penmon Priory; noted also at Chwaer-wen, Llyn Hall, and Llanfugail (Coward and Oldham). Pair found nesting Aberffraw (Gosling). Two seen Ty Croes, May, 1902 (E. P. Butterfield). Noted in trees at Treiorwerth (Long).

CARNARVON. Seen in flocks in winter at Nanhoron a few years ago (C. Ll. Edwards). Seen near Criccieth, 10th July, 1903 (Masfield) and Llanberis, May, 1904 (Brinckman and Forrest). Not observed Lleyn (Aplin), Deganwy; eggs in collection taken here (Hague). Nest found by Mr. Hamer in 1902; birds seen several times Gloddaeth (Hutchinson and Cummings). Seen near Menai Bridge in April, 1902 (Forrest).

DENBIGH and FLINT. Recorded in the Ceiriog Valley and at Nannerch; nest near Wrexham about 1868 (Dobie's list), Llanrwst (*Faunula Grustensis*, 1830); colony seen there May, 1901 (Forrest). Shot at Newhall, Glyn Ceiriog, where it habitually roosts in spruce firs; also Llanarmon; a large number Sandycroft, 3rd October, 1904; quite common all over Sealand and between Hope and Mold; noted also at Rossett, Higher Kinnerton, Bodelwyddan, and Llanddulas (Cummings). Noted several times at Colwyn Bay, especially 8th to 28th

January, 1898, but not known to breed there (Russell). Colony at cross roads, three miles above Llanddulas; one pair feeding young in hole in ash tree, 22nd May, 1907 (Oldham).

MERIONETH. No authentic record.

MONTGOMERY. A few seen Buttington and Welshpool, but rare; local eggs in collection of Mr. Griffiths, Maes-y-gareg, Welshpool (Butterfield). Rare Welshpool (Bruce).

61.—CHAFFINCH. *Fringilla cœlebs* Linn.

*Y BINC = The Pink; ASGELL FRAITH = Streaked Wing; ASGELL ARIAN = Silver Wing; BRIG Y COED = Top of the Wood; JIN-JIN = Call Note.

Resident, and more or less abundant throughout the district.

The Chaffinch is an abundant species, and in some districts, such as north-west Merioneth,† it is “the most abundant small bird.” In Anglesey, however, comparatively few are seen.

It was called the Bachelor Finch by Linnæus because most of the females migrate on the approach of winter, leaving the males behind, so that at that season they are “bachelors.” In Wales, as elsewhere, it is noticeable that the bulk of the Chaffinches seen in winter are males.

Migrants are reported at most of the lighthouses between 25th August and 1st December—both by day and night—singly and in flocks with other finches, but the sexes are not differentiated.

Throughout the winter the Chaffinch is gregarious, associating not only with its own species, but with other finches, buntings, and sky-larks, and frequenting chiefly cultivated lands and farmsteads. Like other finches it is

* The call note is “Pink-Pink”; hence one of the local English names is “Pink”—“Twink” in Denbighshire.

† G. H. Caton Haigh.

in winter mainly a seed-eater, but it feeds its young on insects and their larvæ. Mr. J. J. Cash states that he once observed a Chaffinch in Carnarvonshire hawking for flies at sallow-flowers, picking them off the flowers as well as taking them on the wing. In the *Field*, February, 1901, is a note by Sir H. B. Robertson describing how a cock Chaffinch, on his lawn at Palè, "pulled up a good large worm just as a Robin would, and bit it in pieces, some of which he swallowed; the other Chaffinches with him seemed very much excited." The following day a Woodpigeon did the same thing; the weather was quite open, and the birds not in the least starved.

Mr. Cummings is of the opinion that in this district the Chaffinch is not, as a rule, double-brooded. Late nests are found, no doubt, but these are the result of mishap to the first eggs or young, not second broods. The young keep with, and are fed by, the parents a long time after leaving the nest. On 17th May, 1896, he found in the Ceiriog Valley a clutch of eggs of the rare "Bullfinch" type.

62.—BRAMBLING. *Fringilla montifringilla* Linn.

BRONRHUDDYN Y MYNYDD = Mountain Chaffinch.

Winter migrant, occurring irregularly throughout the district.

Judging from the rather scanty records given below, the Brambling is not a bird that attracts much public attention, but, since the localities in which it has been noted are scattered throughout the counties, it seems likely that the bird also occurs in the intermediate districts, with the exception of Anglesey, where it is probably confined to the vicinity of the Menai Straits.

It particularly affects beech woods, being fond of the beechmast which usually covers the ground beneath the trees at the time when the Brambling arrives.

It generally comes during November, and is more numerous in severe than mild winters. The Brambling has never been known to nest here, and usually leaves for its northern breeding haunts in February or early in March, so that the examples obtained at Barmouth in April, 1885, by Mr. Rawlings, were exceptionally late.

The harsh chirping call-note is very distinctive—quite different from that of any other finch.

ANGLESEY. Rare Llandegfan (Rowlands). Only once seen Aberffraw; a large flock about 1890 (R. D. Williams). A few seen at Craig-y-don, on Menai Straits, in November, 1902 (Dickinson).

CARNARVON. Scarce winter visitor Deganwy (Hutchinson), Conway (Moore). Occasionally, in severe weather, Bangor (Lester Smith), Carnarvon (Wynne Williams), Beddgelert (Evan B. Jones), Nanhoron, seen in farmyards in hard weather (Lloyd Edwards).

DENBIGH AND FLINT. Flocks in winter at Maesmor, near Corwen, Wrexham, Colwyn Bay, and Llysfaen (Dobie's list). Llanrwst, not common. Flocks passing January, 1907 (Halhed). Colwyn Bay, one amongst Chaffinches, December, 1902 (Russell). Common St. Asaph, some winters, numerous November, 1904 (Rogers and Wrigley), Ruabon (Howard), and at Nantyffrith, Wrexham (Kyrke). Small party about farm at Segrwyd, Denbigh, 1902-3; shot pair 16th January (Congreve). Male seen Llanrhaiadr, 4th April, 1904 (Meares). Specimens at the Lyth, Ellesmere, from Llansilin (Forrest), Llanrwst, 1830 (*Faunula Grustensis*). Occurred every winter Llanarmon D.C. (Beale). Some seen near Mostyn, November, 1904 (Newstead). Flocks in winter Llangollen (Ruddy) and Llanarmon (Morgan).

MERIONETH. Palè, flocks almost every winter from end of October till end of February (Ruddy). Around Penrhyndeudraeth a few appear during most winters, and occasionally considerable numbers, as in November, 1894 (Haigh). In December, 1899, one seen Llanbedr, and two or three with Chaffinches at Barmouth (Attlee). Procured two from small flock Barmouth in April, 1885 (Rawlings). Rare Towyn (Kirkby); noted for first time winter 1906-7 (Jackson). Flock Machynlleth 1903-4 (Lewis).

MONTGOMERY. Welshpool, said to be common some winters (Butterfield); believe it occurs (Harrison). Have shot it in Pennant Valley (Beale). Occasionally Newtown (Williams).

63.—LINNET. *Linota cannabina* (Linn.).

*LLINOS = Linnet; "BROWN" Y MYNYDD = Mountain Brown; ADERYN CYWARCH = Hemp Bird.

Resident and numerous almost everywhere, particularly in places where there is gorse.

The Brown Linnet (as it is sometimes called to distinguish it from the Green Linnet or Greenfinch) is one of the commonest and most generally distributed birds in North Wales, and is found equally numerous along the coasts and on hillsides and moors inland.

Gorse-covered places have a special attraction for the Linnet, and it generally selects these bushes for a nesting place. I have found large numbers—probably non-breeding birds—roosting together in thick gorse during the nesting season.

The Linnet occurs on mountains and moors up to an elevation of 1500 feet, or even higher, provided there is plenty of gorse, heather, or scrub of some kind, but it does not love bare or rocky mountains.

It is difficult to decide to what extent the Linnet is migratory, but probably the bulk are resident. In the district round Penrhyndeudraeth, Mr. Caton Haigh says the Linnet is very abundant, particularly in gorse near the coast, and there is not much difference in numbers in winter. Further south, however, round the Dovey Estuary, Professor Salter states that, although numerous on every hillside during summer, few are to be seen from September to March. Mr. Aplin says the same of Lleyn. Linnets occur at the light stations in numbers from mid-September to November, generally in company with other small birds, at night or in the early morning.

* From *Llin* = Flax.

All over Anglesey the Linnet is very numerous, whilst in Lleyl Mr. Aplin found it in fair numbers, and several on Bardsey and Puffin Islands.

Mr. Cummings remarks that on Sealand, where there is no gorse and the land is all under cultivation, the Linnet breeds frequently, nesting in thorn hedges and bramble bushes. In autumn and winter (some years up to mid-April) there are large flocks on the fields there.

64.—MEALY REDPOLL *Linola linaria* (Linn.).

Winter visitor recorded on only three occasions.

On Sunday, 9th December, 1900, Mr. Rosse Butterfield watched for a considerable time a small party of Mealy Redpolls by the brickfields near Welshpool Station. He was able to see them at close quarters, and had no doubt as to their identity, as they were distinctly larger and greyer than the Lesser Redpoll.

In November and December of the same year, Mr. George Dickinson, of Liverpool, noticed a party of six or eight Mealy Redpolls which used to pass to and fro along the alders on the Anglesey shore of the Menai Straits near the bridges. He shot two, one of which—an adult male—is still in his possession, while the other was not worth stuffing. By a curious coincidence he obtained two more males in the very same spot on 24th December, 1904.

An experienced bird-catcher, who appeared to know well the distinctive character of the bird, informed Mr. J. G. Lang that he had frequently taken the Mealy Redpoll (as well as the Lesser) on the uplands of north Montgomeryshire.

Although these are the only instances recorded, it is more than probable that this species occurs frequently in Wales as a winter visitor, but it would pass unnoticed unless observed by a skilled ornithologist.

65.—LESSER REDPOLL. *Linota rufescens* (Vieillot).

PEN-GOCH = Red Poll; LLINOS BENGGOCH = Redpoll
Linnet.

**Resident, and breeds in all counties; numbers increased in winter months
by immigrants.**

The status of the Lesser Redpoll in North Wales appears to have been very imperfectly known until recently, since A. G. More marked it as "probably" breeding in that province, but had no actual record of the fact. There are indications, however, that as a breeding species the Redpoll is increasing all over the district, so that at the time when More's paper was written there may not have been very many pairs nesting in Wales.

Even now, although more or less common in all counties during the winter months, the bird appears to be somewhat local during the breeding season, when it is common generally in the eastern half of the district and in south and east Anglesey; also in the Conway Valley and on the Upper Dee, whilst on the western coast of Merioneth, Carnarvon, and Anglesey, and in north Anglesey, it is then rather rare.

Like the Siskin, with which it often associates in winter, the Redpoll is fond of feeding on the cones of the alder and birch, and it will generally be found haunting country where these trees grow.

In summer its presence is generally betrayed by the call note—a rapid, rattling twitter—uttered as the bird flies overhead, generally higher in the air than other finches. The bird has also a pleasing, low, twittering song, and I have heard a number singing in chorus just before going to roost on a July evening.

The Redpoll is generally double-brooded in this district. Mr. Cummings has known a pair to build and bring off the

young in less than a month (July), incubation in this case lasting not more than twelve days. He notes that nests in Anglesey differ from those seen elsewhere, being composed of dried herbs or grass externally, but with no fine twigs or moss. On 18th May, 1901, he found a bird sitting on a nest in the bare fork of an alder ten or twelve feet above ground in the Ceiriog Valley.

ANGLESEY. Exceedingly abundant in spring and summer along Menai Straits, not only in woods, but on gorsy hillsides; common also in east Anglesey, and fairly common in west, but rare in north (Coward and Oldham). Not observed in north (Forrest). One caught at South Stack, 7.30 p.m., 15th October, 1886 (*B.A. Migration Reports*). Party of five Llanfechell, March, 1905 (Cummings).

CARNARVON. A caged bird, caught in winter, Nevin (Aplin, *Zoologist*, 1900, 493). Seen at times Nanhoron (Lloyd Edwards); one or two Abersoch, June, 1901, and Aber, 2nd July, 1904 (Cummings). Breeds Carnarvon (Wynne Williams). Seen in summer Bettws-y-coed, and a number in plantation north of Criccieth, 12th July, 1903 (Forrest). Common and breeds round Conway (Moore) and Deganwy; birds seen on Little Orme (Hutchinson). Seen occasionally Ynysfor (Evan B. Jones). Noted several times in summer Penmaenmawr (Swainson). Observed once Llandudno (Dobie's list). Found nest on the Carnarvonshire side of the Glaslyn; during winter 1904-5 the species was very abundant in south Carnarvonshire (Haigh).

DENBIGH AND FLINT. Very common and breeds regularly Maesmor, near Corwen, also on the Dee Cop; breeds rarely near Wrexham; seen occasionally Abergelle (Dobie's list). Llanrwst, plentiful in breeding season (Popham). Scarce Colwyn Bay (Russell) and Ruabon (Howard). Fairly common at times Nantyffrith (Kyrke). Breeds sparingly round Llangollen; nest in hazel, 1900 (Owen); flocks in winter (Ruddy). Seen near Mold (Cooke). Plentiful Dyserth, young and old seen 8th August, 1903; Denbigh, May, 1904; flocks Moel Faman, 11th August, 1904; Glyn Ceiriog 28th June, 1904; numerous Bodfari 28th July, 1904 (Cummings). Several Prestatyn September, 1904 (Forrest). Sealand numerous as a breeding species, but scarce in winter; one Colwyn Bay July, 1902 (Cummings). Common Chirk and fairly numerous up to Llanarmon; nest, four fresh eggs, Llanarmon 28th May, 1905 (Meares). Plentiful about Llansannan and Llanfairtalhaiarn June, 1905 (Oldham).

MEBIONETH. Palè very common in winter, and several pairs breed (Ruddy), increased 1903 (*id.*). Common Bala; found six nests in one ramble; breeds rather late (Davenport). Occurs Dolgelley, but not found nesting (Beale). Occurs in spring generally, but has nested Barmouth (Rawlings). Llanbedr, two pairs early May, 1902 (Moore). Fairly common where there are alders; also in breeding season 1903 (Attlee). About Penrhyndeudraeth it varies much in numbers in different years; a few pairs usually breed in gorse bushes on the Glaslyn marshes. Very abundant Portmadoc and Ynysfor 1904-5 (Haigh). Noted several times in summer Machynlleth (Swainson); frequent there in winter (Lewis).

MONTGOMERY. Not uncommon and breeds about Welshpool and Newtown (Butterfield), Montgomery (Brown), breeds (Horwood), also Leighton (Naylor). Common Newtown (Jones and Williams). Garthmyl, observed (Fort), eggs in collection (Griffiths, Welshpool).

66.—TWITE. *Linota flavirostris* (Linn.).

GOLFAN TINGOCH = Red Vented Sparrow; LLINOS Y MYNYDD = Mountain Linnet.

Occurs from autumn to spring on moors and mountains; rarely in summer.

To determine the exact status of the Twite in North Wales has been a difficult task. Eyton wrote in 1838 that it was "common in North Wales, breeding there, and making its nest on the ground under the shelter of some furze bush or tuft of grass." Many parts of the district seem entirely suited to its habits; *e.g.*, the Berwyn range with its long heather-clad slopes, the moors of north Denbighshire, and some of the lower mountains of Carnarvonshire; and yet the most diligent search by several competent ornithologists has failed to reveal a single authentic instance of the nest being discovered.

The Twite bears a considerable resemblance to the Linnet,

but is distinguished by its red rump,* longer tail, yellow (instead of horn-coloured) beak, and by its call-note "Twite," from which it takes its name. An unskilled naturalist might therefore easily pass it unnoticed; but in reply to a question on this point Mr. Caton Haigh writes:—"I do not think the Twite is overlooked, as I am continually on the mountains" in north-west Merioneth and south-east Carnarvon "at all times of the year, but have never seen it."

About Bala the Twite has frequently been observed in flocks between September and April, and on one occasion a pair in May. Several observers report seeing Twites on the "Rivals" (Carnarvonshire) in summer, but these were still in flocks, so were probably not breeding. One or two other recent instances of the birds being seen in summer are given below, but in no case was the nest found.

The conclusion arrived at from all available data is that the Twite in North Wales is a winter visitor in fair numbers to certain hilly districts, but that it rarely if ever remains to breed.

ANGLESEY. Not recorded.

CARNARVON. In Lleyl, birds on Yr Eifl, 1900, thought to be Twites from their notes, but not identified, and searches for the bird on subsequent occasions were unsuccessful. Mr. T. A. Coward saw flocks on the Rivals and Carn Madryn in late summer (Aplin, *Zoologist*, 1900, 493). Several birds on Tre'r Ceiri, felt certain they were Twites, July, 1903 (Masefield and McAlldowie); birds in same place 1902, recognized from notes (Wynne Williams). Several on Cilan Head, 11th June, 1905; could not find nest (Savage).

DENBIGH AND FLINT. Llanrwst, 1830 (*Fringilla Grustensis*). On 15th July, 1904, saw and heard a Twite three miles south of Nantglyn, Denbighshire; its note attracted attention as it flew over; it apparently dropped in the heather, but could not put it up again though a thorough search was made (Cummings). Occurs Nantyffrith autumn, winter and spring, but not as common as it used to be; seen in Vale of Clwyd, June to September, but no nest found; seen Abergele and Berwyn (Dobie's list). Small flock Llangollen, 26th April, 1907

* Male only.

(Ruddy). Nant-y-frith, sometimes large flocks in winter (Kyrke). Flocks seen in winter on Shropshire-Denbighshire border (Lees). Flock 2nd January, 1904, on salt marshes opposite Connah's Quay; very wild. Small party on Dee Marshes, 23rd February, 1907 (Cummings). A pair seen near Llyn Aled, June 10th, 1905 (Oldham).

MERIONETH. Never seen on mountains round Penrhyndeudraeth (Haigh); not seen on mountains walked over between Dolgelley and coast (Aplin); nor round Bala in summer though specially searched for in 1902 (Forrest). Pair seen in May, 1895, on hill north of Llanuwchllyn, but could not find nest (Davenport). Flocks seen in winter on Berwyns above Palè; large flock 7th April, 1900, 16th November, 1902, 23rd April and 15th November, 1903 (Ruddy). Flock on slopes of Arran, 30th January, 1907 (Lang).

MONTGOMERY. Flock in Llangynnog Valley, 19th September, 1900, and 10th September, 1901 (Ruddy). Seen on Corndon, summer 1901, but no nest found (Horwood). Frequently taken by bird-catcher in northern part of county, autumn and winter; on the higher moorlands sometimes numerous (Lang).

67.—BULLFINCH. *Pyrrhula europæa* Vieillot.

COCH Y BERLLAN = Red (Bird) of the Orchard; ADERYN Y BERLLAN = Orchard Bird; CHWIBANYDD = Whistler; BWLLFFIN = Bullfinch.

Resident; common in wooded country throughout the district.

Except in winter and early spring, when it is often to be seen flitting about in open country, the Bullfinch generally secludes itself in woods and shrubberies, so that even in places where it is numerous it is little noticed except by those who know its piping call-note. This is a single flute-like note repeated slowly several times, and therefore easily recognized. It is constantly heard throughout the summer in districts where the bird abounds as, for example, in the Severn Valley in Montgomeryshire.

At the end of the breeding season family parties are met

with here and there, whilst in winter the birds consort together chiefly in pairs—seldom in flocks. The Bullfinch is indeed altogether less gregarious than most other finches.

It does not appear to be migratory to any extent, as it has only once been reported at the local light-stations—on Carnarvon Bay L. V.—where seventeen passed at 10 a.m. on 21st October, 1885, flying south-east.

As regards its distribution in North Wales, the Bullfinch is perhaps most numerous in Montgomeryshire, with parts of Denbigh and Flint. In Merioneth it is fairly common in most parts, and numerous round Portmadoc. In Llyn it is not common, though met with in several scattered localities. At Nanhoron it first appeared about 1872, and increased at first, afterwards decreasing; many being taken by Falcons.* In Anglesey, too, it occurs in various places, but is numerous only in the east and south. At Welshpool, Mr. Rosse Butterfield noticed in winter Bullfinches of a larger size and more brilliant colouring than usual, which he conjectured belonged to an immigrant race.

68.—CROSSBILL. *Loxia curvirostra* Linn.

Y GYLFIN GROES = The Crossbill.

Winter migrant, occurring irregularly chiefly in the eastern half of the district; rare in west, and almost unknown in Anglesey; sometimes occurs in summer, and very rarely breeds.

The Crossbill is seldom seen away from pine trees or conifers of some kind. It feeds largely upon the seeds, and the peculiar form of the bill is eminently adapted to forcing apart the strong scales which cover them.

It also breeds in the same trees, usually high up, placing its nest on one of the boughs, so that it is invisible from below, and therefore difficult to find. The Crossbill nests

* C. Lloyd Edwards.

very early in the year, too, before anyone usually thinks of looking for nests. Thus a pair might easily build a nest and bring off a brood without discovery. Instances of its nesting in Carnarvonshire and Montgomeryshire are given below, whilst the fact that in 1897 Crossbills were seen near Bala practically throughout the year almost amounts to proof that it bred there too, and it is more than likely that the same thing has happened repeatedly without being noticed or recorded, more especially as the bird is very silent as a rule.

In the winter of 1887-8 Mr. Ruddy observed Crossbills repeatedly between Llangollen and Berwyn Station. The favourite food was the seed of the larch, but he watched them eating also the seeds of sycamore. The birds were quite fearless, and would almost let him touch them with his hand before moving.

The Crossbill has been noted most frequently in the main river valleys—the Severn, Upper Dee, Clwyd, and Conway. Outside these areas it is of rare and irregular occurrence, whilst in Anglesey there is but one, apparently accidental, record. In 1905, however, Mr. G. R. Humphreys sent me a number of fir-cones which he had picked up in the pine woods at Menai Bridge; the scales had all been cleared off by force, and I have no doubt by Crossbills.

ANGLESEY. One killed itself against window of house in Anglesey about 1880 (Marshall). On Menai Straits (Forrest, see above).

CARNARVON. Great numbers visited Conway district about 1830 (*History of Aberconwy*). Occasionally visit larch and fir plantations Llandudno district (Williams, *Llandudno Guide*, 1863). Small flocks—more cocks than hens—Bettws-y-coed, November to December, 1898 (R. Newstead, *Zoologist*, 1899, 28). Two or three pairs nested in some larches at Penmaenmawr in 1890 or 1891 (G. H. Pentland, *Zoologist*, 1899, 182). One caught near Tremadoc August, 1898 (Haigh). Seen very occasionally Ynysfor (Evan B. Jones). Numerous Deganwy some winters (Hutchinson). Rare Penmaenmawr; good specimen in collection (Kneeshaw). About 1865 great numbers paid a short visit to Llandudno district (J. Price, *Llandudno Guide*).

DENBIGH AND FLINT. Sir H. B. Robertson noted several Nant-clwyd, near Ruthin, in winter 1887-8; several same winter Llangollen, remarkably tame; one obtained Burton January, 1839; occurs at intervals Maesmôr, near Corwen, several shot; two shot Corwen February, 1890 (Dobie's list). Llanrwst, rare (Popham). St. Asaph, two seen (Watts), pair shot, 1900; seven or eight seen near Denbigh about 1894 (Rogers). Small flock Llanarmon two consecutive years, about 1837-8 (Beale); seen there several times since (Meares). Pair obtained near Corwen (Pownall), Llanrwst 1830 (*Faunula Grustensis*). Pair shot Heswall on Dee Estuary, October, 1900 (V. Wilson).

MERIONETH. Said to have been seen frequently at Tanybwllch (Haigh). Flock seen at Bryntirion, Dolgelley (Beale). One obtained Towyn (Kirkby). Palè occasionally; in 1897 seen every month of the year but June—fully believe nested; in 1903 flock latter half of April; also seen 9th June, 21st July, 25th August, and 15th October (Ruddy). In 1898 one seen 9th September near Dolgelley, and on 17th September two flying over churchyard Llanegryn, near Towyn (Cummings).

MONTGOMERY. Welshpool numerous in garden, winter 1898-9 (Harrison). Several seen Welshpool and Newtown end of 1900 (Butterfield). Flock of twelve to sixteen in large plantation at Leighton for several weeks about 1884, and in December, 1906 (Naylor). Newtown, noticed on several occasions on pine trees after the cones (Williams). Obtained Forden 1899 (Vize), flock of about twenty in larch plantation Newtown; two shot, both females (H. C. T. Beadnell, *Field*, 28th November, 1868). Female obtained near Llansantffraid about 1870 (Lees). Pair nested in fir tree Llanyblodwel 1880 (Rev. Homfray in letter to W. E. Beckwith). Seen occasionally Garthmyl (Johnes).

69.—CORN-BUNTING. *Emberiza miliaria* Linn.

BRAS YR YD = Stout (Bird) of the Grain; BRAS Y DDRUTAIN =?

Resident; abundant near the west coast, especially in Anglesey; less numerous near north coast; rare inland.

So marked is the preference of the Corn-Bunting for the neighbourhood of the sea, that if a line were drawn all round

the coast at a distance of one mile inland, the narrow strip of country included between this line and the sea would be found to contain about 90 per cent. of all the Corn-Buntings in North Wales, whilst the individuals on the west coast would outnumber those on the north by at least two to one.

The species is particularly abundant in Anglesey along the western sea-board, and is common indeed all round the island. Its monotonous grating chant—hardly to be called a song—resounds constantly from all sides as the bird sits on the top of some fence or shrub reiterating it at regular intervals of a few seconds. Inland, in North Wales, the bird occurs in scattered localities, but is nowhere common.

On the north coast of Flint and Denbigh, Dr. W. H. Dobie states that the Corn-Bunting, although fairly common in spring and summer, is rarely seen in winter. Mr. Aplin also tells me that it seems to desert Lleyn in winter, and Mr. Cummings says the same of west Anglesey. On the west coast I have seen it late in winter frequenting farmyards in considerable numbers, or rather in flocks; other observers also have noticed the same thing, so that apparently the bird moves about in flocks during the winter, deserting its summer haunts for the time. Mr. Cummings states that on Sealand parties frequent fields where sheep are feeding on root crops, but not every year. Mr. T. A. Coward states that in west Anglesey the birds that remain through the winter flock, but by mid-April they disperse and renew their characteristic song.

The Corn-Bunting is a late breeder, seldom having eggs till quite the end of May or in June. Dr. Dobie thus describes a nest found near Holyhead, in June, 1892: "It was hidden deeply in the hay-grass, some inches from the root of an umbelliferous plant, from which a sort of 'run' led to the nest, as if the plant were rather a land mark than a shelter."

In Wales, although the Corn-Bunting certainly frequents cultivated lands, and particularly fences of any kind between fields, it does not seem to confine itself to grain fields nor even to arable land, so that the title of "Corn" Bunting is

not here very appropriate; its other name "Common" Bunting, does not apply well either, since, except on the coast, it is far outnumbered by the Yellow Bunting (Yellowhammer).

A flock observed by Messrs. Dobie and Cummings, 5th December, 1897, near Point of Air, seemed to be of a smaller and darker race than those generally seen in summer.

ANGLESEY. Common all round the coast; fewer inland (all observers). Few at end of September, 1904; question if resident through winter (Cummings).

CARNARVON. Common near the sea (many observers). Scarce in Lleyl in winter (Aplin), but then frequents farmyards (Lloyd Edwards). Noted at Llanberis May, 1902 (Forrest).

DENBIGH AND FLINT. Fairly common near the sea (all observers). Nest, three eggs, St. Asaph 22nd June, 1840 (Moses, M. S.). Newmarket, one July, 1902, and two 8th August, 1903; decreased on Sealand, two or three pairs breed (Cummings). Rare Llangollen; nest and eggs July, 1901 (Harries).

MERIONETH. Very common along coast (all observers).

MONTGOMERY. Occurs, but scarce Welshpool (Butterfield), Garthmwl (Johnes); nest Marrington 1901 (Horwood).

70.—YELLOW BUNTING. *Emberiza citrinella* Linn.

Y BENFELEN = Yellowhead; LLINOS FELEN = Yellow Linnet; BRAS FELEN = Yellow Stout (Bird); MELYN YR EITHIN = Yellow Bird of the Gorse; DINAS FELEN.

Resident, and more or less numerous in all parts of the district.

In North Wales, as elsewhere, this handsome and familiar bird is very common and generally distributed. It occurs all over the lowlands abundantly, and to a moderate elevation amongst the hills where it particularly affects roadside hedges. As a curious exception I may mention that on two occasions when visiting Llanberis there were no Yellowhammers seen, and about Capel Curig there seem to be very

few, whilst at Llanwddyn Mr. C. J. Wilson reports there are but few.

It is worthy of note that, despite the abundance of the species, the number of eggs laid is smaller than in most *Passeres*; according to my experience the clutch is usually four, occasionally three, sometimes five (Mr. Cummings once found six). The bird is double or even treble brooded, and the latest clutch—in July or August—is usually only three, and I have several times found the bird sitting on two eggs.

Like other buntings the Yellowhammer is not ordinarily a migrant, and it has only very occasionally been noted at the local light-stations along with Greenfinches and other birds. Mr. Aplin notes, however, that in Lleyn it is less numerous in winter than in summer.

Eyton remarks that “specimens obtained near Holyhead were of a much brighter yellow than those obtained at the same time of year in Shropshire.” In view of the fact that the above was penned nearly seventy years ago, it is interesting to note that Mr. Cummings quite independently observed exactly the same thing in the same locality in 1904. Speaking of Holyhead, where the Yellowhammer is very abundant, he states that “the plumage of the males is often much yellower than is generally the case with this species elsewhere in North Wales; it is not unusual to see many birds with the head and neck entirely lemon-yellow, the dark markings being absent.”

71.—CIRL BUNTING. *Emberiza cirlus* Linn.

Resident; not uncommon locally in Denbigh, Flint, and Conway Estuary; rare elsewhere.

Judging from the records below, the Cirl Bunting in North Wales is practically confined to the counties of Denbigh and Flint with the tract of land in Carnarvonshire round the mouth of the River Conway.

Even within this area it is very local. Probably owing to its unobtrusiveness and superficial resemblance to the Yellowhammer, the Cirl Bunting has been overlooked in many localities where it does actually occur. This conclusion is strengthened by the fact that one-half of the records here given are the result of the researches of one observer only—Mr. S. G. Cummings—who visited localities chiefly in the district noted above. Having a remarkably quick ear for the notes of birds, he can readily distinguish those of the Cirl Bunting, and it is very possible that had he known more of Montgomery and Merioneth the records of the species in those counties would not be so scanty as they now appear.

Mr. Cummings has furnished many interesting notes on the habits of the bird. He remarks that when met with in a road or lane the Cirl will almost invariably fly along the hedge on the side next the field, and enter the hedge on that side. A Yellowhammer, on the contrary, will generally flit along the road and perch on the road side of the hedge. Similarly the nest is on the *field* side of the hedge, not the road side.

A nest near Gloddaeth, from which the young had flown, 9th July, 1902, was in a small gorse bush in a hedge, and had a good deal of moss in its composition. Another nest at Llangwstenin was finished 11th July, and on the 16th the hen was sitting on three eggs. In this there was little or no moss, the outside being chiefly hay, rather loosely put together, and lined with black horsehair. It seems to be a habit of the Cirl Bunting to place its nest above the ground, not in contact with it. The eggs may be distinguished from those of the Yellowhammer by their greenish (instead of pinkish) ground colour.

The call-note somewhat resembles that of the Robin, whilst the song is a monotonous loud trill, sometimes varying in tone, and occasionally like that of the Lesser Whitethroat or *some* songs of the Yellowhammer. The alarm note varies; one bird will utter only a note like that of the Hedge-Sparrow whilst another makes a running note, "teh-r-r-r-r," varied

by the call-note. It is stated that the Cirl Bunting usually sings high up in a tree, but such is not always the case. Mr. Cummings has seen it singing on hedges and low trees, as well as on a low stone wall and on the gable of a church, whilst Rev. F. C. R. Jourdain has noted it on a low gorse bush.

Of a pair (with three young) seen by Mr. Cummings near Bodfari, the male was very richly coloured, whilst the female had the chestnut patch on the breast like the male, only duller in hue.

ANGLESEY. One shot in Anglesey 1878 or 1879 (Priestley).

CARNARVON. Two Llanbedrog June, 1899 (Aplin). Three in breeding season north of Nevin (Bucknill). Nest Deganwy 1903 (Hutchinson) and Gloddaeth 1902; seen repeatedly and nest found Llangwstenin (Cummings). Seen Gloddaeth May, 1907 (Oldham).

DENBIGH AND FLINT. Colony in Ceiriog Valley discovered by Mr. C. G. Beale (Aplin, *Zoologist*, 1892, 179); Cirl Buntings observed there repeatedly, also at Llanfairtalhaiarn, Abergele, Colwyn Bay, Mochdre, Glan Conwy, Tremeirchion, Llanferres, Bodfari, Caerwys, Nannerch, Cefn-y-bedd, and Llanddulas—nine at the last place in July 1907 (Cummings), Elwy Valley (Russell); shot one from party feeding with finches near Llangollen in winter 1889 (Howard); heard there once (Beale). Heard Dolywern (Dobie's list), Llanfairtalhaiarn, Coed Coch, and Llanddulas (Oldham). Female obtained near Denbigh (V. Wilson).

MERIONETH. Has occurred once at Bontddu, near Dolgelley (Rawlings). Colony near Aberystwyth (Swainson, Salter, Kershaw).

MONTGOMERY. Young male caught Welshpool July, 1900, and kept in cage (Butterfield). Pair on farm at junction of Severn and Vyrnwy May, 1900 (Meredith); nest Marrington, 1901 (Horwood).

72.—REED-BUNTING. *Emberiza schæniclus* Linn.

GOLFAN-Y-GORS = Marsh Sparrow; PENDDU'R BRWYN = Rush Blackhead; BRAS Y CYRS = Reed Stout (Bird); BRAS PENDDU = Black-headed Stout (Bird).

Resident or partial migrant, common generally in boggy lowlands.

The Reed-Bunting—commonly called Reed-Sparrow or Black-headed Bunting (though only the cock has a black head)—is widely distributed in bogs and marshes, or by pools and rivers, throughout the lowlands of North Wales, during the summer. It does not often occur at elevations much above 500 feet, though it breeds regularly at Bala and other places at about that level.

In winter, however, most of the breeding haunts are deserted, the Reed-Buntings at that season either emigrating altogether or taking up fresh quarters elsewhere in Wales. A good many winter along the west coast, where flocks may often be seen about the farmsteads, but few remain along the north coast. At Penrhyndeudraeth, Mr. G. H. Caton Haigh reports that the Reed-Bunting appears sometimes in numbers in the spring, which possibly indicates that at that season a migratory movement northwards takes place along the west coast. In the neighbourhood of the Dorey Estuary flocks often appear in stack-yards after snow, these, perhaps, having been driven southwards by the cold.

As regards its distribution in summer, the Reed-Bunting is most numerous in Anglesey, especially the west, though it is almost as common on the Dee marshes. On 9th October, 1904, Mr. S. G. Cummings noted a flock of between thirty and forty on Sealand, and they were evidently on the move somewhere.

The male frequently assists in incubation and, like the female, will feign disablement to draw an intruder from the nest.

73.—ORTOLAN. *Emberiza hortulana* Linn.

Reported once on the Berwyns.

Mr. Douglas H. Meares sends me an account of a Bunting which he saw, and watched for some time on the Berwyn mountains, near Llanrhaiadr-ym-Mochnant, 20th May, 1907. As a practical field ornithologist he recognised that it was some species of bunting that was strange to him. He sent me a description of it at the time, and subsequently visited South Kensington Museum, where he identified it as an Ortolan. His description entirely agrees with the diagnosis, so that there is little doubt as to identity. The bird was feeding amongst moor-grass at an elevation of about 1800 feet.

74.—SNOW BUNTING. *Plectrophenax nivalis* (Linn.).

BRAS YR EIRA = Snow Stout (Bird) ; ADERYN EIRA = Snow Bird.

Winter migrant, occurring irregularly in all parts of the district, on the coasts and on hills inland.

The pretty little "Snowflake" is somewhat irregular in its visits to North Wales, but occurs on the north coast almost every winter, and much more frequently there than on the west coast or inland. It usually appears in small flocks numbering from five to twenty, and will linger for several days together on the same hill or bit of coast where it first takes up temporary quarters. It is more frequent in severe than in mild winters.

When seen inland it is almost invariably on the top of some bare hill, or the side of a mountain. Dr. W. B. Russell has several times met with small flocks in early winter on a

certain stretch of gravelly road near Rhos, Colwyn Bay; in 1900 they appeared there on November 6th and stayed till the 10th. They ran about chasing one another and uttering a pretty call-note. They were very tame, and if disturbed only flew off to a short distance, showing the glistening white underwing in passing. Flocks seen by Mr. T. A. Coward near Connah's Quay in 1903-4 were also noticed as being very tame on arrival. They were feeding on the seeds of the sea-blite (*Suaeda maritima*).

ANGLESEY. One killed against telegraph, Penmon, January, 1902 (Coward and Oldham). Small flock Llangwyfan about 1894; shot several (R. D. Williams). Specimen shot Rhosneigr (Long). Three near Point Lynas, March, 1905 (Cummings). Shot Holyhead (Eyre and R. J. Edwards). Obtained Anglesey, 7th March, 1907 (E. C. Phillips, *Field*, 6th April, 1907).

CARNARVON. Large flocks occasionally in winter Deganwy (Hutchinson) and Conway (Moore). Bangor (Lester Smith). Obtained Llandudno (Stevens). Flock on Snowdon, April, 1904 (Evan B. Jones). Moel Hebog early in the eighties; one Broom Hall, Pwllheli, kept in cage some time (Haigh).

DENBIGH AND FLINT. Frequent in winter along coast and on Dee Estuary (many observers). Noted near Wrexham and twice at Maesmor, near Corwen (Dobie's list). Llansilin and on the Berwyns, by Mr. A. T. Jebb (*Bygones*, 1892, 381). Two obtained Rûg, November, 1878 (Wynn). Two flocks Llanarmon D.C. in February, about 1891; keeper shot two or three and kept one in cage for long time (Beale). Flock St. Asaph, 4th and 5th November, 1839 (Moses, M. S.). Llanrwst (*Faunula Grustensis*, 1830).

MERIONETH. Frequent in winter on the coast and estuaries (many observers). One picked up, Dinas Mawddwy, years ago (Buckley). Large flock on Arddu in winter 1904-5 (Haigh). Occasionally shot on Berwyns (Ruddy).

MONTGOMERY. Seen on Kerry Hill and Long Mountain in winter (Harrison). One shot out of flock on English border near Oswestry about 1867 (Fort). Plentiful some winters Welshpool (E. A. Griffiths) and Llanllugan; immense numbers 1881 (Lort).

75.—STARLING. *Sturnus vulgaris* Linn.

DRUDWEN = Starling; Y DRYDWY = The Chatterer.

Resident ; numerous everywhere ; immense flocks on west coast in winter.

Although the Starling is now abundant in all parts of North Wales, as a breeding species it was almost unknown in the west twenty to twenty-five years ago.

At the present time it is very common and increasing, whilst in autumn the residents are largely added to by immigrants from the north or east. In October, 1883, immense flocks appeared on the Merioneth coast.* At all the light-houses Starlings occur in enormous numbers, chiefly from September to February, during night or early morning. In 1881-2 there were no Starlings on St. Tudwal's all the winter. On 16th March, 1902, a large flock was round the lantern there all night ; the keeper going out on to the gallery was covered with birds.† Mr. Caton Haigh states that in 1886 many of the Starlings that had wintered near Penrhyndeudraeth left there during the second week of February, large flocks passing over flying due north.

These winter movements are probably in great part only local. It is curious that even in the breeding season Starlings are often seen in flocks, and one can only conclude that these are composed of non-breeding birds or the mates of sitting birds, collecting to go to roost in reed beds, etc. Thus Messrs. Coward and Oldham noted flocks of 200 to 300 in June, 1902, at Penmon, Anglesey, whilst on 26th June, 1886, at 8 p.m., Mr. Caton Haigh saw an immense flock passing over Penrhyndeudraeth, flying due north : it looked like a long narrow stream some six yards wide, and at least half a mile long. I saw a flock, too, by Llyn Coron, Anglesey, on 22nd May, 1901.

* *Field*, 13th October, 1883.

† *Aplin, Zoologist*, 1903, 211.

During 1901, Dr. W. B. Russell repeatedly saw in his garden at Colwyn Bay, a Starling with a beak twice the usual length and curved like that of a Curlew. The previous year he observed an albino in a brood of the usual colour; the nest was in an old boat in a garden, and the young were removed into a cage where the parents fed them, but the white nestling was persecuted by its dusky brethren until it died. White or cream-coloured Starlings have been recorded at Penybont, near Oswestry, in October, 1901 (R. Roberts), Pool Quay, Mont., October, 1902 (Hayward), Bangor, 1890, Towyn, 1891, and varieties of both shades at Llanllugan by Mr. Lort.

The same observer reports a Starling's nest *on the ground* at Vaynol in 1901. In Bardsey Mr. Aplin observed Starlings breeding in holes in the turf banks which divide the fields,* and in 1886 Mr. C. Oldham noted similar cases at Rhosneigr, Anglesey, whilst in June, 1903, Mr. A. Moore observed Starlings nesting in enlarged Sand-Martin's holes above the shore at Nevin. It is now a common habit of the Starling to nest along the coast in crevices in rocks, etc., and I have also seen nests in cracks in precipices high up amongst the mountains.

Mr. Jas. J. Cash writes of the Starling's powers of mimicry: "A Welsh shepherd once told me he had the greatest difficulty with his dog, as some Starlings imitated his (the shepherd's) whistle exactly; the poor dog was quite distracted and ran in every direction but the right one."

76.—ROSE-COLOURED STARLING. *Pastor roseus* (Linn.).

Rare visitor, recorded only twice; in Anglesey and Flintshire.

Eyton, writing in 1838, states: "A beautiful male of this very rare British bird was killed three or four years ago in the garden behind the hotel at Holyhead, where it had been

* *Zoologist*, 1902, 14.

observed for a day or two before. Its habits were described by the gardener as being like those of the Thrush. The preserved skin is in the possession of Captain Stephens, formerly of that place, who kindly permitted me to inspect it." Dr. W. H. Dobie quotes from Mr. A. O. Walker's diary: "Mr. A. Dick notes that one was killed at Point of Air (*circa* December), 1862, at the lighthouse."

77.—CHOUGH. *Pyrhocorax graculus* (Linn.).

BRAN GERNYW = Cornish Crow; BRAN BIG COCH = Red-beaked Crow.

Resident; formerly common on coasts of Anglesey, Carnarvon, and Merioneth; still occurs, but in small and decreasing numbers.

Up to about 1865 the Chough appears to have been quite a common bird all along the coast, from the Dovey Estuary, round Carnarvonshire and Anglesey, to the Little Orme's Head. Shortly afterwards its numbers began to decrease, and so rapid was the diminution that before the end of the century most of its haunts were deserted. Merioneth and Carnarvonshire are the only counties in which there still remain any considerable number of Choughs, chiefly in Lleyn and west Merioneth, though here and there a pair nest a short distance inland in the mountains.

A century earlier, Pennant speaks of it as occurring in Flintshire, Carnarvon, and Anglesey. It seems very improbable that it could have been found in the first-named county unless as a casual visitor, and, as Pennant lived there, I should imagine that he must have had in his mind the birds that occasionally wandered into Flint from the neighbourhood of Conway, where the Chough was then, and for long afterwards, numerous.

The statement in Yarrell—repeated in the 4th edition—that the Chough still inhabits Flint and Denbigh, as also

Seebohn's statement that it still breeds in them, are both obviously erroneous. As regards Flint, they are survivals of Pennant's antique record, whilst Denbigh is inserted probably on the isolated record by Montagu quoted below. It is remarkable that these authors omit all mention of Merioneth, though in those early days the Chough inhabited that coast in considerable numbers, and still occurs there.

To account for the rapid diminution of the Chough in North Wales is no easy matter. Human agency has had little to do with it except in its later stages, when the greed of the egg-collector became an important factor in the case. In its earlier stages, at any rate, the decrease must have been due to natural causes. It would seem that in the "struggle for existence" the Chough is not so well equipped as some of its rivals. Speaking of these birds in Lleyn, Mr. O. V. Aplin remarks: "Anyone watching their gentle ways must have the sad conviction forced upon him that these birds are not of the fittest to survive."* It is a noticeable fact that in the districts where formerly the Chough was common, especially along the west coast of Merioneth, the Jackdaw is now extremely abundant, and I am inclined to think that the disappearance of the Chough from these districts is due—in part at any rate—to the Jackdaws having usurped the nesting places. Even at the present day Choughs are seen from time to time in winter paying "flying" visits to the scenes sacred to the memory of their ancestors.

"Choughs sometimes join Rooks and Jackdaws when feeding, but, as they rise together, their more highly pitched note—clearer and more melodious—as well as their widely separated pinions—upturned at the tips—looking like a fringe of feathers, at once distinguish the Choughs, even at a considerable distance. They certainly do cry 'k'chouf' sometimes, but their more usual cry is a clear ringing 'k'chare.' Another note, uttered on the wing, is 'k'quoue.' I heard also some weak 'kares' from five birds flying

* *Zoologist*, 1901, 144.



OFF CONWAY—Historic Haunt of the Chough.

Photographed by J. W. HEATH.

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together—perhaps a family party—which were possibly the cries of the young birds.”*

The flight of the Chough is peculiarly graceful and buoyant, with airy curves. Visiting Lleyn in May, 1900, Mr. Aplin writes: “I was glad to see Choughs (four pairs) in their old haunts. Two pairs walking about on a steep grassy slope varied by gorse and heather, made up a picture to delight the eye of a naturalist. In the bright sunshine the glossy purple-black of their plumage and their red beaks showed up well against the green background. Choughs are very affectionate birds; the individuals of the respective pairs kept close together, and I saw one pair fondling one another with their bills. When feeding they pecked quickly at something among the grass, apparently picking up insects; or they poked their bills into the ground or tufts of herbage. Presently they all rose, flipped over the wall, and settled again to feed in a sheep pasture. I do not know what was the state of these birds’ domestic arrangements, but they evidently had not got young; and their leisurely behaviour was very different from that of the busy, pushful Jackdaws which in a constant stream came up over a sheer cliff-edge, whilst a persistent succession of returning birds dropped into space and, wheeling round, made for the cliff-face.”†

In 1838 Eyton wrote of the Chough as follows:—“Found commonly on all the bold headlands of the Welsh coast. I have several times procured young ones and tamed them; they are exceedingly amusing, though very mischievous, stealing everything they can carry off. I never—although they made all sorts of odd noises—succeeded in teaching one of them to articulate clearly any sound. They were particularly fond of cheese, attacking any nest of mites whenever they could find their road to the cupboard. They learned to know the servants’ dinner hour, and if not admitted would rap at the window with their strong bills, much to the danger of the glass. During winter, in their wild state, they

* Aplin, *Zoologist*, 1900, 498.

† *Ibid.*, 1901, 144.

proceed some distance into the country, often accompanying flights of Rooks and Jackdaws; but during summer I have never observed them far from the sea-coast.”*

It has been suggested that the extensive quarrying carried on in recent years in Wales has had something to do with the disappearance of the Chough from its breeding haunts, and in certain instances this is known to be the case.

The Peregrine has been noticed as being very destructive to the Chough, but as it is almost the only enemy the Jackdaw has, the damage it does to the latter perhaps balances the havoc amongst the former species.

ANGLESEY. Holyhead, formerly fairly common, specimens obtained there (Edwards); used to breed South Stack (Long) and Aberffraw up to 1890; young often taken as pets by boys; pair trapped on common 1899; quite common in the seventies (Gosling and R. D. Williams). Used to breed Bull Bay (Cummings and Rowland). Shot pair Tywyn Trewan about 1880 (Eyre). Eggs taken 21st May, 1853, by Lord Lilford out of the ruined tower of an old church on Puffin Island; the old birds were flying about; nest contained three eggs and one young Chough (*Ootheca Wolleyana* II., 472). Beaks and other remains of Choughs found in excavating at base of tower (*Puffin Island Reports*).

CARNARVON. Decreased wonderfully in last twenty years; more in Lleyn than elsewhere; a few pairs inland (Haigh). Still lingers in Lleyn (many observers); in 1902 estimated at thirteen or fourteen pairs (Aplin, see also above). Common on Bardsey Island (John Price, *Llandudno Guide*, 106), and from thence northwards (C. F. T. in *Field*, 18th March, 1871). Several times seen old and young on coast; climbed to one nest (E. W. H. Blagg, *in lit.*, 12th November, 1901). Used to nest in old windmill, Nanhoron (Lloyd Edwards), and in Llanberis slate quarries up to 1894; had young from nest there 1890 (Brinckman). Inhabited Conway mountain up to about 1898; pair nested Penmaenbach, 1906; one shot January, 1907 (Hutchinson), nested Penmaenmawr, 1901, and reared young (Kneeshaw); in 1835 rather numerous in Conway district, breeding on all the rocks (*History of Aberconwy*), also on the Orme's Head, etc. (many observers); nested in cliffs on Mynydd Mawr (J. Cordeaux, *Zoologist*, 1866, 436). Used to breed

* *Ann. and Mag. Nat. Hist.*, I., 291.

Deganwy Castle; three seen there in summer 1885 (Ed. Furlong *in lit.*).

DENBIGH AND FLINT. Occurs in Flint (Pennant, *circ.* 1790). Pair nested for many years in ruins of Crow Castle, Llangollen; one killed by accident, and the other haunted the place for several years without finding a mate (Montagu, *Ornith. Dict., circ.* 1810).

MERIONETH. Decreasing Barmouth, nesting sparingly or not at all in old haunts; one breeding place converted into a reservoir and quite deserted 1901 (Rawlings). Seldom seen now Barmouth (Roberts). Dovey Estuary, met with more frequently of late; two small parties winter 1902-3 (Feilden). In 1870 abundant on coast Aberystwyth to Harlech, breeding in cliffs (C. F. T. in *Field*, 18th March, 1871). Few still breed near Towyn (Kirkby). Pair appeared Aberdovey in spring 1904 (Jackson). A few pairs still breed in West Merioneth, where fairly large flocks are seen occasionally (Haigh). Colony of seven pairs in one place, private (Forrest); two seen Llwyngrwl 5th June, 1903 (Aplin); one shot Towyn October, 1905 (Forrest), another Fairbourne 28th January, 1907 (Lang).

MONTGOMERY. Not recorded.

78.—NUTCRACKER. *Nucifraga caryocatactes* (Linn.).

Rare visitor, recorded once only, in Flintshire.

The first specimen of this wanderer ever recorded in Britain, is the one figured and described in Pennant's *British Zoology* (1812, I., 298). It was shot in a garden at Mostyn, Flintshire—Pennant's home—on 5th October, 1753.

79.—JAY. *Garrulus glandarius* (Linn.).

SCREECH Y COED = Wood Screech; PIOGEN GOCH = Red Magpie; YSGRECHOG = Screech; PIOGEN Y COED = Magpie of the Wood.

Resident and common throughout the district in wooded country, except in Anglesey, where it is remarkably scarce.

Despite the numbers destroyed every year by keepers, the

Jay contrives to hold its own very well in North Wales, and is found in fair numbers wherever there are extensive woodlands in all the counties except Anglesey. In that island it is almost unknown, even in the wooded belt of country which skirts the Menai Straits. True, it does occur in this last district, but only very occasionally, and this is all the more remarkable since in Carnarvonshire—just opposite—it is common enough.

Eyton writes (1838): "I have several times observed that if the nest of this bird be found and the eggs touched or disturbed, they are sure shortly to disappear. *Query*.—Are they carried off by the bird to some safer situation?"

80.—MAGPIE. *Pica rustica* (Scopoli).

PRODEN = The Magpie; PROG = Magpies; PIA = Magpie.

Resident, common and generally distributed; occurring up to a considerable elevation on moors and hillsides.

Except where its numbers have been reduced by man, the Magpie is a common bird throughout North Wales.

Considering the usual relations between man and bird, it is singular to note that in the hill country the Magpie exhibits a marked liking for moorland farms—each farm has its pair, and the nest is plainly to be seen in some tall ash or other tree overlooking the homestead. Not always, however, is the nest thus situated, for in Anglesey and Lley, owing partly to the lack of trees, the nest is usually in a thorn hedge. In 1902 I saw a nest on Mochras in the middle of a low bush within easy reach, but so thick and close were the thorns that it was impossible to introduce the hand anywhere without lacerating it terribly; the Magpie apparently realised this, for it had entirely dispensed with the usual dome of sticks and thorns. At Menai Bridge Mr. E. G. Humphreys

observed the same nest repaired and used three years in succession. A nest on Sealand was observed by Mr. Cummings to be occupied by a pair of Magpies for several successive years till 1904, when a pair of Kestrels took possession ; this nest also was without a dome, built at the top of a thick spruce, and almost invisible ; it looked more like a Crow's than a Magpie's. When the Kestrels took possession, the Magpies built another nest in a larch close by, the nest in this case being conspicuous and domed in the usual fashion.

Mr. Ruddy relates that in February, 1902, two Magpies came to Palè and made friends with a tame Raven on the lawn. It is a curious coincidence that about fifteen years previously a Magpie also came and made friends with another tame Raven that was kept there then ; the two fed together and associated for several weeks, but the Magpie disappeared about the nesting time.

81.—JACKDAW. *Corvus monedula* Linn.

COEGFRAN = The Sham Crow ; JAC-Y-DO = Jackdaw ; CAWCI = (The Bird's Cry) ; COEFRAN = Dwarf Crow.

Resident ; common almost everywhere ; remarkably abundant along west coast.

The busy, pushful Jackdaw is common all over North Wales except on bare moorlands like those of Montgomeryshire, where it only comes to feed occasionally, but does not breed. On the west coast of Anglesey it is only fairly common, although on the other sides, which are more precipitous, it is plentiful.

The bird is common enough in churches and other buildings, especially ruined castles, etc., but to see it literally in thousands we must visit its rocky haunts along the coasts of Merioneth and Carnarvon. In Wales the Jackdaw is

essentially a bird of the cliffs, whether by the sea or inland; the numbers to be seen in some of these places are marvellous. Standing above the cliff we behold a scene of remarkable animation; we cannot see the rock beneath our feet, but every crevice in it is occupied by a pair of breeding birds, and a constant stream of black forms keeps floating upwards and outwards from beneath us, whilst an equal number glide towards us, dip down, and disappear. The air meanwhile is filled with clamorous cries, more especially if it be late in the season and the young are calling for food. All along the beach Jackdaws are constantly to be seen searching for flotsam and jetsam to carry off to their nests, or for food wherewith to satisfy the needs of themselves and their voracious families: these cliff Jackdaws seem to subsist almost entirely on what they pick up on the shore.

Mr. E. Benson gives an amusing account of a mild species of warfare between a colony of Jackdaws and another of Herring-Gulls in close proximity, near Beaumaris. It appears that the gulls have got into the habit of waylaying the daws on their way to the nest with food for the young, and robbing them of the food, which they then carry to their own young. The daws do not tamely submit, but follow the gulls and, if they get the slightest chance, recover the spoil. To prevent this both gulls stop by the nest, one keeping guard whilst the other feeds the young.

A writer in *Bygones* (1886, p. 32), describing the remarkable tameness of the birds at Dolgelley Station, says: "On Sundays the Jackdaws, apparently cognisant of the fact that there is no traffic, assemble in hundreds, literally covering the station platform, and amuse themselves between chattering and helping themselves to what they can find, including the grease used about the points and railway chairs. Dolgelley, sheltered as it is from the biting east wind, no doubt affords them a most comfortable retreat throughout the winter."

About 1900, Dr. W. B. Russell noticed a curiously marked Jackdaw at Colwyn Bay: the colours were reversed, the head being black whilst the rest was grey. Mr. Rosse Butterfield

has seen a pied Jackdaw killed at Welshpool, whilst the Hon. C. H. Wynn has a curious light brown variety in the collection at Rûg, and I have seen another of a pale silver-grey, darkest on the head, obtained near Carrog in 1906.

In 1904 Messrs. Cummings and Oldham saw some farm hands raiding Jackdaws' nests on the coast near Llangwyfan, and it appears that they *eat* the young, so probably these are as palatable as young Rooks.

Mr. Percy Lewis states that in late summer and autumn the Jackdaws round Machynlleth desert the locality and resort to the moors.

82.—RAVEN. *Corvus corax* Linn.

CIGFRAN = Flesh Crow; Y GIGFRAN FAWR = The Great Flesh Crow.

Resident; not uncommon in the west; much more rare and local in the east.

In western Wales the Raven still maintains itself in fair numbers, and breeds in the wilds where human intruders are few and far between.

Considering the pertinacity with which it is pursued by farmers and shepherds, and the equal pertinacity with which the eggs are raided by collectors, and the young by men who sell them for pets, it is wonderful that any are left at all!

The Raven is cordially detested by the Welsh farmer, on account of the mischief it does amongst his flocks. True, it loves carrion, and quickly scents the carcase of any large animal such as a horse, as many as eight or ten sometimes gathering to such a feast; but, supposing that no food of that character is to be had, the Raven does not hesitate to attack a young lamb or weakly ewe, killing it by strokes from its powerful bill, piercing through the eye to the brain of its victim. It always picks out the eyes first, then the

tongue, and next the liver. When it has satisfied its immediate wants the bird retires, but will come back again and again till the bones are bare. (Of course Crows, etc., help to demolish the meat meanwhile.) The farmers know this, and take advantage of the fact to destroy the Raven by poisoning the carcass. Other methods adopted to the same end are to shoot it on the nest, or to kill the young by dropping stones on to the nest from above, or by letting down bundles of burning gorse on to the nest.

The Raven is singularly attached to its chosen nesting haunt, returning to it again and again, even though the eggs or young be taken every time. If robbed of eggs, it does not usually lay again in the same nest, but builds another somewhere near, in a place more inaccessible than the first. Even if unmolested it frequently has two nests near to one another, and uses each in turn.

Whether the Raven has learnt by bitter experience that nests in trees are not safe from robbery I know not, but certain it is that at the present day such nests are extremely rare. I have heard of nests in trees in dingles amongst the Welsh mountains some years ago, but never saw one, nor have I heard of a recent instance. The nest is nearly always on a ledge of rock near the top of some sea cliff or precipice amongst the mountains. In most cases it cannot be reached except by a rope from above, though now and then instances occur in which the nest is so near the top that it is easily accessible, whilst in other cases the rugged nature of the rocks enables a climber to reach the nest from below. Some exceptionally well-protected nests I have seen were placed beneath huge overhanging masses of smooth rock.

The Raven breeds very early in the year, often beginning to lay in February, and having young by the end of March. The nest is a bulky one, as the bird habitually uses rather large sticks for the foundation, whilst the sides are also of sticks, though smaller, gnarled stems of burnt heather often predominating. The lining is of wool, fur, or other soft material. The size of the nest depends to some extent upon



PISTYLL RHAIADR—The Raven's Haunt.

Photographed by A. G. LAWSON.]

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its age. A new nest is comparatively shallow, but each time the bird uses it, it adds new material, especially to the sides, thus increasing the depth, and sometimes the diameter.

The eggs are very similar to those of the Crow—varying in colour and markings within the same limits—but, of course, are larger. The size, however, varies considerably, for I have seen very large Crow's and very small Raven's eggs that were almost indistinguishable.

The Ravens themselves, too, vary—some adults are noticeably smaller than others—and I remember one pair in particular in which both the cock and hen were little larger than Carrion-Crows. These were known to be adults, as they had nested for years in the same locality, and had young in the nest when I saw them.

The number of eggs is usually four or five, occasionally six; old birds lay fewer eggs, often only three. A Raven that has been robbed of its first clutch will always lay again, but usually fewer eggs than the first time. In one instance, which was probably very exceptional, a second clutch numbered *six* eggs when the first had been only five. (Mr. O. V. Aplin has known six eggs in a second laying.) Eggs found in May are always a second clutch laid by a bird that has been robbed, for the Raven never rears two broods in the year.

As a rule the bird is a light sitter, quitting the nest at the slightest alarm, and going out of sight so as not to attract attention. As soon, however, as it finds that its nest is discovered, it returns and exhibits unmistakable signs of anxiety. The behaviour of the bird on such occasions varies in individual cases. I have seen an old Raven that had vanished when the nest was approached, return after a time flying very high in the air and utter a single croak; the young birds in the nest thereupon opened their mouths wide as if expecting to be fed, and then apparently understanding the cry as one of warning, crouched down in silence.

I will describe in detail a visit to a nest in 1904, since it illustrates several interesting traits in the character of the

Raven. The nest, which contained young about ten days old, was on a ledge near the top of a great mass of rock, projecting like a buttress from the face of a rampart of cliffs flanking a narrow valley. The face of the cliff was broken by jagged pinnacles and crevices, in which here and there a scrub oak or ash tree gained a precarious foothold. To reach the nest a detour to the left had to be made. Whilst we—a party of four naturalists—were still far off, one of the Ravens descried us and uttered a warning croak as a signal to the sitting bird, which at once quitted the nest, and the two flew off together out of sight. Not for long, though, for they seemed to divine by our movements that their nest was discovered, and as soon as we had mounted the ridge and had begun to walk along it towards the nest, the Ravens returned and began flying excitedly round us, uttering short barking cries. Their excitement increased as we got nearer and nearer to the nest, and when we at length walked across a grassy slope on to the smooth top of the buttress, and, lying down, peered over and looked down upon the nest, they became almost frantic; they flew repeatedly straight towards us menacingly, barking at intervals, and then turned back over the valley. Every now and then they “tumbled” in the air just like a Tumbler Pigeon or a Peewit.

We sat down and watched them. They ceased menacing us then, but one (the hen we fancied) went off to a tree which projected from the cliff, and began digging her bill into the bough, wrenching off pieces of bark and wood, and hurling them into the abyss below! This was evidently a relief to her feelings, and she probably felt still greater relief when we departed, leaving her nest and progeny in peace as we found them.

In Montgomeryshire the Raven was quite common in former times. Mr. Owen Johnes relates that some two hundred years ago a murder was discovered near Garthmyl, through Ravens croaking over the dead body.

Mr. J. Matthew Jones (*in loc. cit. infra*) gives an amusing account of a pet Raven named “Rafo,” which was taken from

a nest on Corndon in 1846. His wings were clipped at first, but afterwards allowed to grow, and he was left free to fly abroad, although he always returned home at night. He used to follow some labourers to the fields, and, not content with what the plough turned up, he sought out the workmen's lunch basket and helped himself to what he chose, scattering the food on the ground, and even extracting the cork from a small keg of beer. The men were afraid to interfere, as they had a superstitious dread of his satanic appearance. Eventually he was shot by a burly farmer, whose poultry yard had suffered by his depredations.

ANGLESEY. Frequently seen Aberffraw and used to nest near Bodowen, but in consequence of lambs being destroyed they were killed on the nest (Gosling); in May, 1901, found young one killed on nest at top of cliff, west coast; one seen north coast 24th April, 1903; three seen flying south on west coast 19th July, 1903 (Forrest). Scarce Holyhead; pair feeding on dead sheep, Cymmeran, 15th August, 1904 (Edwards). Pair and brood Red Wharf Bay, 1902 (Coward and Oldham). Few pairs nest north and west coast (Cummings). One seen years ago between Valley and Rhydwen (Clulow). Two seen near South Stack in October, 1901 (Oldham).

CARNARVON. Breeds at several places in Llyn (Aplin). Frequent in Llyn; breeds on cliffs along coast (Lloyd Edwards); occurs Penygroes (Thring) and Abersoch (Savage); a few pairs breed round Carnarvon (Wynne Williams). Pairs on many of the mountains (Evan B. Jones). Still found Snowdon district (H. G. White). Pair nested Moel Siabod, 1901 (Calvert); Raven and last year's nest seen there May, 1904; Raven seen and new nest near Nevin, 31st May, 1903; pair on Great Orme, nest under lighthouse, 1902—saw both birds in May and repeatedly in subsequent years (Forrest). One or two pairs still breed every year on Great Orme, and in winter are seen foraging on the Little Orme but do not now breed there; until a few years ago a pair used to nest on Conway Mountain (Hutchinson); a good many on mountains round Bettws-y-coed; 464 killed in twenty-eight years ending 1902, on Lord Penrhyn's estate (Foster). One seen Carnedd Llywelyn, 1892 (Marshall). Two or three pairs Beddgelert (F. S. D. in *Field*, 6th August, 1859). Pair seen overhead Edeyrn, Llyn, September, 1901; one on Little Orme

July, 1902 (Cummings). Scarce Bangor (Lort); Penmaen-mawr (Kneeshaw). One seen Aber, May, 1904 (Benson). Often seen on Dolwyddelan moors and breeds round Moel Siabod (Bucknill). Breeds on rocks Llandudno, Rhiwleden and Conway mountain (*History of Aberconwy*, 1835), selecting the most craggy places, but is becoming rare from persecution (Williams, *Llandudno Guide*, 1861). One pair used to nest on Little Orme, driving others away, *circ.* 1867 (Dobie's list), another on Llanddulas Head (John Price, *Llandudno Guide*).

DENBIGH AND FLINT. Pair nested Hilbre Island, 1857; used to be abundant on Dee marshes in winter till about 1866; occurs regularly Llanddyrnog; Maesmor, near Corwen, and nests on Berwyns; occurs in winter Llansilin and Llangollen, and used to breed in Eglwyseg Rocks; specimens in Chester Museum from Ruthin and Rûg (Dobie's list). Breeds still in Ceiriog Valley and near Llanrhaiadr (Gallichan and Meares); a good number round Llanrwst (Halhed). Reported Colwyn Bay (Russell) and Llangollen (Owen). Rare St. Asaph (Rogers), Ruthin (Steer) and Mold, where it used to breed (Cooke), as also at Nantffrith, near Wrexham (Kyrke). Two on keeper's gibbet at head of Aled Valley, killed in spring 1904; in June saw one flying, hotly pursued by Curlews, which stooped at it, eliciting each time a dismal croak; two on moor, near Pentrevoelas, 30th July, 1905 (Oldham). One shot and others seen on Dee marshes (V. Wilson).

MERIONETH. Palè, stills breeds (Ruddy); a few pairs breed on mountains round Bala (Davenport and Wrigley), Dinas Mawddwy (Buckley and Steadman), Dolgelley (Bailey), Barmouth (Jourdain and Roberts); not diminishing, breeds on most suitable crags on the mountains (Rawlings); a few breed near Towyn (Kirkby and Robinson); often seen Dovey Estuary (Feilden and Kershaw), Llanfachreth (Pugh), Machynlleth (Anwyl), and Llanbedr in winter (Moore) where it is fairly common in the mountains (Pearse). Pair nested in large fall of rocks at Braichgoch, Corris, till 1886, when they were shot by a shepherd (Birley). One heard Cader Idris, 30th August, 1900 (Salter in *Zoologist*, 1902, 3). Several breeding haunts in west and north-central Merioneth (Aplin). Seen occasionally in winter passing over Penrhyn-deudraeth; pair or two breed on most of the mountains round (Haigh). Scarce Llwyngwrl (Beddall Smith); round Machynlleth four nests contained young, 20th March, 1907 (Lewis).

MONTGOMERY. Breeds Blaen-y-cwm Woods, Llangynnog (Fort and Lester Smith). Rare Llanllugan but once saw eight at

carcase of pony (Lort). Very rare Welshpool (Harrison), Guilsfield (Mytton), Llanerfyl (Harington), Carno (Davies), Newtown (Williams); not seen of late years Llansantffraid (Kempster). Used to nest regularly on Corndon and Kerry Hills till about 1850 (J. Matthew Jones in *Naturalist*, 1853, 210). Pair, with young, Llangynnog, May, 1907 (Meares). Six together at Llanwddyn, August, 1907 (C. Wilson).

83.—CARRION-CROW. *Corvus corone* Linn.

MILFRAN = Carrion Crow; BRAN = Crow; Y GIGFRAN FACH = The Little Raven; BREUAN = Bleating; BRAN SYDDYN = Cottage Crow; BRAN FAWR = Great Crow.

Resident; common except where killed down; abundant in mountainous country.

The Carrion-Crow has been killed down in many English counties until it has become absolutely scarce. In North Wales, however, it is common and generally distributed except in certain localities, such as Sealand, where it exists in very reduced numbers, or Anglesey, where it is much more numerous on the coasts than inland.

There is one district in particular where the Carrion-Crow is astonishingly numerous—the country around Penrhyn-deudraeth and Llanbedr. Here it is to a certain extent gregarious, and I have seen about a dozen nests in one small wood (each in a separate tree, but quite close together), and have watched as many as thirty to forty mobbing a Buzzard in the air. Mr. Caton Haigh has seen roosting colonies which must have numbered between 100 and 200. Eggs of plovers, Redshanks, etc., that have been sucked by Carrion-Crows, are commonly to be seen on Mochras.

It is noticeable that where the Carrion-Crow is numerous the Rook is comparatively scarce, and *vice versâ*.

Nests of the Carrion-Crow in western Wales, where the trees as a rule run small, are often quite low down, and in very small trees. Mr. Caton Haigh records one in a thorn

tree only five feet from the ground, and I have seen another on the moor above Dolwyddelan in a small solitary birch, so exposed that the nest was plainly visible more than a mile away.

On the coast this bird builds on a ledge of a cliff overlooking the sea, like the Raven, and sometimes it selects a similar site on a mountain precipice.

In view of the fact that the crow of Ireland is the Hooded Crow (*C. cornix*), the tradition current at Holyhead that the local Carrion-Crows come thither from Ireland is very curious, and shows how untrustworthy such traditions are.

The following Welsh lines, which are of great antiquity, were taken down by Mr. D. G. Goodwin, who found them current in Montgomeryshire; they are supposed to be an imitation of the Carrion-Crow's hoarse cries:—

(Translation.)

Marw (m)arch!	Marw (m)arch!	Dead horse!	Dead horse!
Ym mha le?	Ym mha le?	In what place?	In what place?
Yn y cwm draw;	Yn y cwm draw!	In yonder dell!	In yonder dell!
Ydyw o'n dew?	Ydyw o'n dew?	Is he fat?	Is he fat?
Twr o floneg!	Twr o floneg!	A heap of grease!	A heap of grease!

84.—HOODED CROW. *Corvus cornix* Linn.

BRAN HEDLYD = Ash-coloured Crow; BRAN GLAN Y MOR = Sea-shore Crow; BRAN LWYD = Grey Crow; BRAN YR IWERDON = Irish Crow; BRAN Y LLUDW = Ashy Crow.

Rare winter visitant, recorded in all counties; has nested once or twice.

A. G. More stated that the Hooded Crow probably bred in Wales, as it had been seen as late as May. Mr. Aplin mentions* having seen a hybrid between the Carrion and

* *Zoologist*, 1900, 499.

Hooded Crows which had been killed in Merioneth. This, I believe, is the bird purchased from Mr. Rawlings by Mr. J. Backhouse, who presented it to the York Museum. Mr. Rawlings told me that the parents—of the two different species—were seen repeatedly on a farm near Barmouth, and that the specimen belonged to a brood of five hybrids which were reared, and were subsequently often seen about the neighbourhood.

A bird which resembles a true Hoodie is in the possession of Mr. A. B. Priestley, though, he states, “both parents were apparently genuine Carrion-Crows.”

In Dr. Dobie's list there is an interesting account of the Hooded Crows that used to visit the Dee Estuary in the first half of the nineteenth century. “They used to feed on mussels at Hilbre Point, and, flying to some height, let them drop upon the rocks known as the ‘Red Stones’ to break them. They were seen to treat crabs in a similar manner.”

The rarity of the Hooded Crow in Wales is the more remarkable since it is resident in the Isle of Man, and in Ireland it is plentiful, whilst the black species is almost unknown. On the east coast of England, too, the Hoodies are common as winter visitors, though they return to the continent to breed.

ANGLESEY. Seen on two or three occasions in early winter on west coast (Clulow). Very occasionally Aberffraw (Gosling).

CARNARVON. Seen once on Little Orme's Head (Hutchinson). One caught in trap about 1880 on shore of a mountain lake near Bettws-y-coed, now in own collection (Foster). One obtained at Llanberis about December, 1903 (Lort), and one Llandudno (J. Price, *Llandudno Guide*). One seen in keeper's larder Madryn Hall, 1900 (Johnes).

DENBIGH AND FLINT. Nested in fir tree in wood near Llanrwst 1900; nest and eggs taken by youngest son; birds seen at the nest (Halhed). Scarce St. Asaph (Rogers). Specimen in Bodelwyddan Castle, obtained on the estate (Forrest). Two trapped on grouse moors near Corwen 1895 (Ruddy). One seen in Flintshire end of 1888 (*id.*) Not infrequent winter north side of Dee Estuary 1810—1854 (Dobie's list); one shot there, near Heswall, in 1906 (V. Wilson).

MERIONETH. One seen near Bala about 1st August, 1901 (J. Roberts, Bala). One shot while feeding on dead rabbit Llandderfel, 16th November, 1887, another 11th November, 1901 (Ruddy). One in fine plumage on Barmouth Estuary in company with Carrion Crows November, 1894 (Beale). Another for some weeks in autumn 1884; a brood of five hybrids between Carrion and Hooded Crows reared on farm near Barmouth (Rawlings). Specimen obtained Penrhyndeudraeth in collection (Priestley, see above). One seen about Barmouth for three weeks in January, 1905 (Roberts).

MONTGOMERY. One shot at Newtown in January, 1892 (*Bygones*, 1892, 284). One shot a few years ago in rabbit warren at Gregynog (Jones). One shot near Montgomery 6th November, 1901 (Butterfield).

85.—ROOK. *Corvus frugilegus* Linn.

YD-FRAN = Corn-Crow.

Resident and common; least numerous in the west.

In the eastern half of North Wales the Rook is as abundant in all the wooded lowlands as it is in most English counties. In Lley and Anglesey, as also in west Merioneth, it is comparatively scarce, though there are many scattered rookeries, mostly small. In these districts its place is to a great extent taken by the Carrion-Crow.

The Rook is essentially a lowland bird, seldom breeding at a higher level than 500 feet, and, although it resorts to the hills to feed, it does not go so high as the Crow.

On the Berwyns, above Bala, Mr. Ruddy pointed out to me how the loose flat stones on a grassy hillside were gradually moved downhill by the Rooks, which turn them over time after time in order to get at the insects beneath them.

At Rhosneigr in the spring of 1902, Col. Long noted that the Rooks which came to feed on the coast, and which were usually very wary, became extremely tame, walking about outside the kitchen door, expecting food to be thrown to

them. Mr. C. Oldham adds that in the Llein villages both Rooks and Jackdaws behave with great familiarity, boldly entering pigstyes which abut on the high road, or which are in close proximity to occupied houses.

In each district Rooks have one great roost to which they resort every night, except in the breeding season. The roost is also a rookery, but at night is occupied by thousands of birds in addition to its resident population, the additions being from, perhaps, a dozen rookeries in the surrounding district. The one at Rûg, for example, is the roost to which resort each night the birds from rookeries at Palè, Bala, Corwen, and other places.

86.—SKYLARK. *Alauda arvensis* Linn.

HEDYDD or EHEDYDD = A Flier; UCH - HEDYDD = High Flier; MEILIERYDD = Soarer.

Common and generally distributed; flocks pass along coasts in winter.

The Skylark is common in open country, especially on cultivated lands, almost everywhere. It is, perhaps, more numerous in Anglesey than elsewhere in North Wales. It occurs, too, on hillsides up to nearly 1000 feet elevation, but does not extend its range higher, its place being taken by the Meadow-Pipit on the moors. It avoids narrow valleys such as the Vale of Llangollen, being only seen there when driven down by severe weather.

In winter it is often seen in considerable flocks on the stubbles, but at that season is much more in evidence as a migrant along the coasts. It occurs then at the Welsh light-houses in very large numbers by day and in smaller numbers by night. These movements extend from mid-September to mid-February or later; but the greatest rush takes place towards the end of October, when the larks are seen passing

the lighthouses in a continuous stream. Similar observations have been made on the west coast of Merioneth and Cardigan. Years ago Brockholes remarked "flocks crossing the Dee marshes in autumn, in a southerly direction, apparently bent on a journey." The bulk of these are doubtless migrants from further north. There is no evidence of any extensive migratory movements amongst the local birds, except that, on the approach of winter, they desert the bleak upland districts to gather in more sheltered places below.

In the *Field*, 11th September, 1897, Mr. T. R. Evans, Holyhead, mentions shooting on September 1st a lark white except the underparts, which were slightly yellow. Mr. Stivens, Chester, had a cream-coloured variety, obtained on Sealand.

Mr. Cummings has noticed that the Skylarks frequenting the Dee marshes in winter appear to be a smaller and darker race than those breeding here. He has occasionally come across nests of this species in sheep-bitten grass on rough pastures, entirely unconcealed, and Mr. Aplin has noted it in Merioneth as nesting in holes in short turf without any shelter.

87.—WOODLARK. *Alauda arborea* Linn.

HEDYDD Y COED = Wood Lark; ENID = Lively (?); HEDYDD ESGUDOGYLL = Lively Lark. (?)

Rare resident, very local; occurs on migration in winter along the west coast.

Owing to the Tree-Pipit being often called the Woodlark (the Welsh use the same name for both species) much confusion has resulted, and it has been extremely difficult to obtain reliable data concerning the true Woodlark; indeed I have been compelled to reject dozens of records because it was impossible to tell to which bird the writers referred.

For the benefit of readers who do not know the bird I may point out that the Woodlark is much shorter in the tail and more stoutly built than the Tree-Pipit, whilst the song is utterly different. No one who has ever heard the Woodlark sing will ever forget it—the tone so round and full and mellow: the rolling trills pouring forth continuously as the bird gradually mounts up to a moderate height, and as gradually descends to its starting point, usually the end of a bough near the top of a tree standing out by itself. The song resembles the familiar one of the Skylark; but is far sweeter and not so loud.

The name Woodlark is not quite appropriate, for the species does not frequent woods. In my experience the Woodlark occurs in only one kind of resort—a gently-sloping hillside facing south or west with clumps of bracken dotted over it, and here and there a few trees or big bushes.

The nest is placed on the ground against or amongst the bracken, and the eggs (laid in March, with a second clutch in July) do not resemble those of the Skylark nor any of the pipits, being whitish with small spots and specks of dark brown scattered over the whole surface.

In connection with Mr. W. A. Rogers' remark below as to the former abundance of the Woodlark in the Vale of Clwyd, it is worthy of note that there is a similar record in relation to the Birkenhead district in Dr. Dobie's list. So far as can be gathered from the details below, the species is nowadays resident only in parts of Denbigh and Montgomery, though it occurs as a winter visitor in the other counties except Anglesey. Carnarvon is doubtful.

ANGLESEY }
CAERNARVON } No authentic record.

DENBIGH AND FLINT. Llanrwst (*Faunula Grustensis*, 1830). Male watched for some time 22nd May, 1901 (Forrest); another Bryn-y-glyn Wood, Colwyn Bay, spring 1885 (Newstead). Several to be seen at the "Crest," Denbigh; father caught numbers in years gone by, St. Asaph district, using a call bird and a long string (Rogers). Observed twice only Llangollen (Pownall). Seen in spring and summer at Nant-y-frith,

Wrexham (Kyrke). Pair seen north side of Dee Estuary May, 1861 (Dobie's list). Almost certain breeds Dyserth: nest found in 1904 must have belonged to this bird (Jourdain).

MERIONETH. Occurs Dovey Estuary (Feilden); numbers seen with Skylarks passing along coast southwards during hard winter in January, 1892 and 1893 (Salter). Has occurred at Barmouth in winter (Rawlings). Pale, never observed in summer, but a few in winter; one shot by Sir H. B. Robertson, 23rd December, 1875 (Ruddy). Resident Machynlleth, but never found nest (Lewis). One seen Cemmes in July, 1906 (L. G. in *Field*, 29th June, 1907).

MONTGOMERY. Local specimen in collection Leighton (Forrest). Very rare Welshpool (Beck and Harrison). Seen in spring at Pennant, Garthmwl (Fort); several seen near Newtown, but no nest found (Williams). Generally two or three pairs on side of Moelydd (Lees).

88.—SHORE-LARK. *Otocorys alpestris* (Linn.).

Recorded on the Dee Estuary.

A bird, recorded by Rev. F. O. Morris as a Shore-Lark, obtained at Llandudno, was possibly a Dunlin. In the *Zoologist*, 1906, p. 72, Mr. T. A. Coward records a Shore-Lark observed and sketched by Mr. Lewis Jones on Hilbre Island on 19th December, 1905, apparently a female or an immature bird.

89.—SWIFT. *Cypselus apus* (Linn.).

ASGELL HIR = Long Wing; GWENNOL DDU = Black Swallow; BIWITS; DERYN DU'R LLAN = Black Bird of the Church; GWENNOL GWBLDDU = All-black Swallow.

Summer migrant, common almost everywhere.

The Swift occurs more or less commonly in all parts of North

Wales, and is often to be seen flying over hilltops quite away from human habitations.

It is remarkable that this bird has not been reported from any of the lighthouses round North Wales, though it has been known to strike the lantern occasionally on other coasts.

At Welshpool Mr. G. D. Harrison has several times observed Swifts at the end of April, the earliest date being 26th in 1897, whilst in 1903 (remarkable for the late stay of these birds in many districts) he saw a number in September. At Colwyn Bay the Swift arrives generally about 8th May. In west Anglesey the Swift is comparatively scarce. In 1905, Mr. T. A. Coward noted one at Rhosneigr on 2nd May, but I saw one flying about over the Dovey Estuary in very rough weather five days earlier.

At Palè the earliest date of arrival noted by Mr. Ruddy was 22nd April, 1890, and in 1883 on 26th April; generally about 5th May. On Sealand, Mr. Cummings recorded earliest date 2nd May, 1896 and 1903; average 4th May. In 1902, Mr. A. Moore observed a flock at Llanbedr, 3rd May, and the birds remained there.

Rev. Robert Williams, in 1835, speaks of the Swift as nesting in great numbers in the castle and town walls of Conway, whilst Williams' *Llandudno Guide* (1861) states that it "builds in the cliff immediately overhanging the sea, and may be seen in summer wheeling around the headland, and screaming aloud while in pursuit of its insect food." Messrs. Coward and Oldham found it nesting in a cliff at Red Wharf Bay in some numbers in 1902, as well as in other cliffs on the east coast of Anglesey the following year. Other observers describe the Swift as nesting in crags around Bettws-y-coed, Aber, and other places, whilst Mr. O. V. Aplin adds* that "possibly most of the west Lleyrn Swifts breed in natural sites."

* *Zoologist*, 1900, 499.

During the years 1884–8 some Swifts nested under the roof of Mr. Moxley's house in the Back Road, Welshpool. Each year some of the brood were white or partially so. In 1887 the brood consisted of one black Swift with a white crown, the other entirely white.* In 1888, too, one of the young was white. Two of these birds—one pied, the other mottled—are in the possession of Mrs. Wm. Davies, Glentarne, Coton Hill, Shrewsbury. The Hon. C. H. Wynn has a local white variety in the collection at Rûg.

[ALPINE SWIFT. *Cypselus melba* (Linn.).

Byerley in his *Fauna of Liverpool* (1856), p. 16, mentions, on the authority of Mather, taxidermist, that one was killed at the mouth of the Dee many years ago by — Mostyn, Esq.]

90.—NIGHTJAR. *Caprimulgus europæus* Linn.

TROELLWR = Spinner; NYDDWR = Spinner; TROELLWR SAF-NAWG = Mouthy Spinner; ADERYN Y DROELL = Spinning-wheel Bird; GWALCH Y NOS = Night Hawk; BRÂN NOS = Night Crow; GWENNOL Y NOS = Night Swallow.

Summer migrant, generally distributed, most numerous near the west coast.

The Nightjar is very numerous in Anglesey and throughout the western half of North Wales—less common in the eastern half.

The writer of the *History of Aberconwy* says of this species: "It arrives in this neighbourhood about the end of May and

* *Bygones*, 1887, 362.

continues generally until the beginning of September. It is distinguished by a sort of continued buzzing, which has been aptly compared to the noise caused by a spinning wheel; hence its Welsh names." The English name generally used in Wales is "Fern Owl," the titles "Nightjar" and "Goat-sucker" being almost unknown here.

The Nightjar generally arrives in Wales about the middle of May, though in 1895 Mr. G. D. Harrison noted it at Welshpool as early as 29th April. On 18th May, 1901, Mr. H. S. Davenport heard one at Llanuwchllyn churring in hot sunshine at 12.40 p.m. The latest date recorded was 28th September, 1901, when Mr. L. Wilson Roberts observed one hawking for moths over a bank of red valerian near the station at Barmouth. It is worthy of note that the Nightjar does not appear in the list of birds observed at the Welsh lighthouses. Dr. W. B. Russell heard the Nightjar churring at Colwyn Bay as late as the second week in August, 1900, although the song is usually discontinued by the end of the breeding season. In July, 1901, he saw a young one lying out on the shingle at Llanddulas, where it was very conspicuous.

The song is uttered whilst the bird is perched lengthwise on a bough, but on 7th July, 1903, I watched one for a considerable time churring vigorously whilst squatting on the very top of the vertical leading shoot of a small pine tree near Criccieth. In districts where trees are scarce it will often sit on the top of a boulder, whilst several correspondents mention having seen it sitting on a house-top whilst uttering its jarring notes. Mr. S. G. Cummings remarks: "It is curious how few persons have noticed or recorded the *call* note of this bird when on the wing; it sounds like 'go-ick, go-ick,' and is uttered frequently after the birds first arrive."

In Wales the Nightjar shows a decided preference for sandhills as a breeding ground in all its coast resorts.

91.—GREAT SPOTTED WOODPECKER. *Dendrocopus major* (Linn.).

DELOR FRAITH = Finely Spotted (Bird); CNOCELL BRITH = The Spotted Pecker; COBLYN MWYAF = Greater Pecker.

Resident; fairly common in wooded parts of the district; occurring in all the counties except Anglesey.

The status of the woodpeckers in Wales was so little known that when A. G. More wrote his list he marked all three species as probably breeding in the district, but had no foundation for the statement. It is a fact that all three breed in North Wales, but the distribution of each differs from that of the other species.

Of the two Spotted Woodpeckers the Greater is the more numerous and widely distributed, being found throughout the entire breadth of the land where wooded, from the English border to the far west of Carnarvonshire. Although nowhere a common bird it is perhaps more numerous than is generally supposed, especially in the valleys of the Severn and Conway. In the Llanbedr district, too, it is now fairly common although, according to Mr. Caton Haigh, this has only been the case during the last few years.

The cry of this bird is a loud harsh "keek!" repeated at short intervals. It rarely utters it except when alarmed or excited. I believe that the curious rattling noise which it makes with its beak by vibrating it against a bough is a "call-note" to the opposite sex.

The nest-hole is generally higher up than that of the Green Woodpecker, and more often in one of the large boughs than in the trunk of a tree. I have never seen this species alight on the ground to feed, as the Green Woodpecker so frequently does.

ANGLESEY. Not known to occur.

CARNARVON. Fairly common about Conway and Bettws-y-coed; seen Capel Curig May, 1904; nest Talycafn May, 1902 (Forrest). Common Creuddyn district; Deganwy (Hutchinson) rather rare; breeds Penmaenmawr (Kneeshaw) and Nanhoron (Lloyd Edwards). Seen several times lately Carnarvon (Wynne Williams). Nest, five eggs, Capel Curig 29th May, 1904 (Meares). Heard in Bodfean Woods 24th May, 1902 (Aplin). Fairly common Aberdunant and Beddgelert; has increased considerably all over the district during recent years (Haigh). Many nest Llugwy Valley (Jourdain).

DENBIGH AND FLINT. Fairly common (all observers).

MERIONETH. Penrhyndeudraeth, in almost all woods, but only seen during last few years (Haigh). Not uncommon Ynysfor (Evan B. Jones). Several seen and heard in Cwm Bychan May, 1902 (Forrest). Much rarer than Green Woodpecker Barmouth (Rawlings and Roberts). Seen Dolgelley (Swainson). Frequent Llandbedr (Pearse, Moore, Wayne); nest, six eggs, Pensarn (Jourdain). Scarce Llanfachreth (Pugh), Glandovey (Salter). Frequent Palè (Ruddy); nest in beech tree at Rûg, 1884 (Wynn). Seen Llandrillo (Cummings). Fairly common in the Mawddach Valley; known eight eggs in a nest; met with pairs in several scattered localities in west (Aplin). Scarce Llwyngwrl (Beddall Smith). Breeds in several woods round Machynlleth (Lewis).

MONTGOMERY. Fairly common (all observers).

92.—LESSER SPOTTED WOODPECKER. *Dendrocopus minor* (Linn.).

DELOR FRAITH LEIAF = Lesser Spotted (Bird); Y CNOCELL BRITH BACH = Little Spotted Pecker; LLYGODEN Y DERW = Oak Tree Mouse; COBLYN LLEIAF = Lesser Pecker.

Resident; not uncommon in the eastern half of the district; unknown in the west.

This little bird is so inconspicuous, and secludes itself so much in the interior of the woods, that it easily escapes notice.

The records below are, therefore, somewhat scanty, and possibly incomplete; still they are sufficient to show that the Lesser Spotted Woodpecker is confined to a smaller area than the Greater Spotted, and that even in that area it is numerically weaker.

Its range appears to extend from the English border on the east to the mouth of the Conway on the north-west and the proximal end of the Dovey Estuary on the south-west.

So far it has not been observed anywhere on the west coast, nor in Anglesey, though there are slight indications that, like the Hawfinch and some other birds, it is gradually extending its range westwards—*e.g.*, Mr. Ruddy never saw one at Llandderfel for the twenty-five years preceding 1898, but has seen several since then, and in 1904 he saw one about fourteen miles further west.

On 4th July, 1900, Mr. C. Kempster watched an old bird feeding a young one in an orchard at Llansantffraid. In 1900 I had one brought to me that had fallen dead out of an apple tree in an orchard near the Montgomeryshire border of Shropshire. There was a gale blowing at the time, and I fancy it had been struck by a swaying branch, as its back was broken.

ANGLESEY. Not known to occur.

CARNARVON. No authentic record.

DENBIGH AND FLINT. Has bred at Colwyn Bay 1899 (Russell).

Locally common St. Asaph (Rogers and Watts). Has been observed at Llangollen, Nantfyrith near Wrexham, and Glan Conway (Dobie's list). Seen in Chirk Park (Beale). Fairly common on English border near Ellesmere (Tower); few Rossett (Huxley). Local specimen in collection of Mr. Cameron, Voelas Old Hall, Pentre Voelas (Halhed). Rare Llangollen (Ruddy). Breeds at Llanrhaiadr near Denbigh; one shot Heswall on Dee Estuary (V. Wilson).

MERIONETH. Llandderfel, not observed till pair seen 29th March, 1898; one seen 29th December, 1901, and another 10th April, 1903; one seen 20th September, 1904, in large plantation opposite Drws-y-nant Station (Ruddy). Scarce Bala (Burton). Not seen about Dolgelley (Beale). Seen in Hirnant Valley,

Bala (Buckley). Seen occasionally near Machynlleth (Anwyl and Kershaw) and Corris (Birley).

MONTGOMERY. Observed Newtown, 1900 (Butterfield). Scarce Leighton (Bruce). Increased lately (Naylor). Specimens obtained Welshpool (Forrest). Scarce Newtown (Williams). Montgomeri (Brown, Johnes, and Horwood), Carno (Davies), Llanerfyl (Harington). Fairly common Pool Quay (Hayward). Occasionally seen Garthmyl (Fort) and Llansantffraid (Kempster).

93.—GREEN WOODPECKER. *Gecinus viridis* (Linn.).

CNOCELL-Y-COED = Woodpecker; COBLYN-Y-COED = Woodpecker; TARAD-Y-COED = Wood-Auger; TYLLWR-Y-COED = Wood-Borer; CYMYNWR-Y-COED = Wood-Cutter; *CASEG-Y-DDRYCIN = Foul-Weather Mare; CASEG WANWYN = Spring Mare.

Resident and common in all suitable parts of the district.

The loud laughing cry and brilliant plumage of the Green Woodpecker render its presence in any district very obvious, besides which in North Wales it is decidedly more numerous and widely distributed than the other woodpeckers. Even in Anglesey, where the Spotted Woodpeckers are unknown, the present species occurs in all parts where there are trees, and it is occasionally met with in barren districts; about Holyhead, where up to 1890 it was rarely seen, it is now increasing.

The Green Woodpecker is very fond of ants, and it is in search of these insects that it so often hunts over the ground or along hedgebanks. Mr. Ruddy has observed it searching beneath loose stones on the slopes of the Berwyns, and on 10th September, 1902, came across one at Llangunnog where

* Equivalent to the English "Rain-bird," a provincial name given to the Green Woodpecker because it is supposed to foretell rain by being particularly noisy. The same title is given to the Mistle Thrush by the Welsh, but in that case it is equivalent to the English "Stormcock."

for many miles there is hardly any timber. Mr. G. H. Caton Haigh has also noted this species at Penrhyndeudraeth on the hills above the level where trees grow. When on the ground the Green Woodpecker progresses by a series of awkward hops.

In 1903 Messrs. Coward and Oldham found several nesting holes in east Anglesey, within three or four feet of the ground, whilst in Merioneth Rev. F. C. R. Jourdain has noted them at all heights from four feet up to very lofty elevations. One remarkable site near Barmouth, that has been occupied regularly for many years past, is a natural hollow in a big horizontal bough.

94.—WRYNECK. *Iynx torquilla* Linn.

GWDDFGAM = Wry-Neck; PENGAM = Crooked-Head; *GWAS Y GOG = Cuckoo's Servant.

Summer visitor of rare and uncertain occurrence.

Mr. Alfred George records in the *Field*, 1883, having, on several occasions, seen the Wryneck in the Vyrnwy Valley, Montgomeryshire, whilst the Rev. W. R. Jones, Churchstoke, informs me that a pair nested near Llandinam (Montgomeryshire) about 1860, when he was living there. Dr. Dobie in his list gives particulars of its having been heard near Mostyn, Flintshire, in the spring, 1861, and frequently at Plas Heaton, Denbighshire, between 1846 and 1869. Eggs were found at the last-named locality about 1866. Mr. C. S. Beale watched one on the road between Llangollen and Dinbrann Hall in the spring about the year 1882. Mr. W. A. Rogers, St. Asaph, remembers his father once having a specimen to stuff. The Wryneck is also said to have been

* Obsolete. This title is now used in Wales for the Meadow-Pipit.

seen in the Conway Valley at Llanrwst by Mr. Cecil Popham and Mr. W. B. Halhed, and near Conway by Mr. T. Hague.

The most curious and out-of-the-way occurrence of the Wryneck in North Wales was a solitary male shot by a farmer at Gorllwyn, near Barmouth, on 24th April, 1900. The skin is in the possession of Mr. F. C. Rawlings. In connection with this last incident it is worth mentioning that a short distance beyond our district a Wryneck was obtained at Cwm, Aberystwyth, about 1879, by Captain Cosens, who has the specimen still in his collection. Byerley in his *Fauna of Liverpool* says that the Wryneck is very rare in Wirral, but has bred at Saughall-Massie, close to the Welsh border on Sealand.

95.—KINGFISHER. *Alcedo ispida* Linn.

GLAS Y DORLAN = Blue (bird) of the river-bank ;
PYSGOTWE = Fisher.

Resident, generally distributed in lowlands; most numerous in Montgomeryshire.

This most brilliant of British birds occurs throughout North Wales on lowland streams, but seldom at a greater elevation than about 800 feet. In Anglesey it is principally known as a winter visitor, and though on three or four occasions it has been noted in summer, no nest has been found. The same may be said of the Lleyn Promontory, and on the west coast generally it is somewhat rare except in winter. Throughout the eastern half of the district, however, the bird is resident and fairly common, being most numerous along the Severn and its tributaries.

Although it feeds mainly on small freshwater fishes, the Kingfisher does not confine itself to this diet, for in winter it resorts to rocky parts of the coast and at that season feeds largely upon shrimps and other small salt-water animals.

When fishing in open water where there is no convenient overhanging perch, the Kingfisher frequently suspends itself in the air, motionless except for a rapid vibratory movement of the wings, sometimes at as great a height as fifteen feet above the water. It generally takes fish close to the surface but will occasionally dive right under. Now and then it will plunge in several times at the same place, merely to wash itself, afterwards flying to some overhanging bough to preen its feathers.

Mr. J. D. Jones has known a Kingfisher to perch on his rod whilst fishing in the river Alyn. A fish-hatching trough at Palè proved very attractive to the local Kingfishers, which even forced their way beneath the netting put over it to protect the fry. One of the birds that was caught in this way, when placed in a cage, repeatedly feigned death when it found itself observed (Ruddy).

96.—ROLLER. *Coracias garrulus* Linn.

Rare visitor; recorded three or four times on the north coast.

In the *Field*, 1st December, 1860, is a note signed "KAT," to the effect that a Roller was "shot in August, 1855, about two miles from Holywell, Flintshire, and the specimen is still preserved in the neighbourhood."

Dr. W. H. Dobie states in his list: "Mr. A. O. Walker tells me that on January 21st, 1858, he saw a Roller which had been shot by Captain Mostyn at Saeth-elwydd, near Holywell, in the previous September." This same bird is recorded in the *Zoologist*, 1858, p. 5976, by Mr. T. Mather, taxidermist, who adds that it was a young bird, and, when killed, was sitting on some railings in front of the house.

In the *Field*, 7th November, 1874, there is a record of one shot at Abergele by Mr. C. Jeffreys, 19th October, 1874.

The most recent occurrence was on 7th October, 1897, when Dr. W. B. Russell "was fortunate enough to see a Roller, in

all its glorious blue and green plumage, hopping about on some mole-hills in Nant-y-glyn Valley, about a mile from Colwyn Bay."

It will be noticed that all the above examples occurred towards the end of the year, and all within a few miles of one another on the north coast of Flint and Denbigh.

97.—HOOPOE. *Upupa epops* Linn.

COROG = Crested.

Summer migrant of rare and uncertain occurrence.

This handsome bird has such a striking appearance that it can hardly fail to attract the notice of even unobservant people; yet the records given below are so scanty that it is quite evident that the Hoopoe is very rare in North Wales. Its apparent absence from Montgomeryshire is the more remarkable since in the neighbouring county of Shropshire the bird has been obtained on at least a dozen occasions. As regards North Wales the year 1901 was notable because, about 22nd April, three Hoopoes occurred simultaneously in widely separated localities—Rhosneigr (Anglesey), Dolgelley, and Mold. With reference to the first of these, Colonel Long informs me that the man who shot it, and brought it to him to learn what it was, told him that he saw a bird just like it three years before, and that about that time another (or, perhaps, the same) was shot some two or three miles away by the landlord of the Maelog Hotel.

ANGLESEY. One shot by Llyn Maelog, 1898; another at Rhosneigr, 22nd April, 1901, now in own collection (Long). One shot years ago at Bodfor, near Holyhead, preserved in keeper's cottage at Carden (Coward, *Zoologist*, 1900, 82).

CARNARVON. Seen once at Nanhoron by the late Mr. Francis Lloyd Edwards (Lloyd Edwards).

DENBIGH AND FLINT. One obtained Nannerch (Pennant, *Brit. Zool.*, 1812). One preserved at Coed Coch, near Colwyn, shot there about 1878 (Dobie's list). One shot Weir Mill, Colwyn Bay (Russell). Said to have occurred Llanrwst (Halhed), and St. Asaph (Rogers): One seen Colomendy, Mold, April, 1901 (Cooke), Hoylake (Byerley, *Fauna of Liverpool*). One in collection shot Llanrhaidr, near Denbigh, 24th September, 1898 (V. Wilson).

MERIONETH. One shot Garthgell, Dolgelley, April, 1901, now in own possession (Beale). Several preserved by Hutchings, taxidermist, Aberystwyth, but it is not known if any of these came from North Wales (Salter).

MONTGOMERY. Not recorded.

98.—CUCKOO. *Cuculus canorus* Linn.

Côg = Cuckoo; Y Gwcw = The Cuckoo; Y CETHLYTH = The Songster (used only in poetry).

Summer migrant, common everywhere.

The Cuckoo is a very common bird in North Wales, particularly on the moors, where it is constantly to be seen in early summer going about in parties of (usually) three—two cocks and one hen. Its predilection for the open moors is partly attributable to its preference for the Meadow-Pipit as a fosterer for its young, as remarked under the head of that species. In Lleyr Mr. Aplin observed that a great many haunt the sandhills at Abersoch, and I have noticed the same thing in west Anglesey.

The *History of Aberconwy* gives the following dates of arrival: 21st April, 1824; 22nd April, 1825; 21st April, 1826; 26th April, 1827; 29th April, 1828; 21st April, 1829. At Palè the earliest date noted was 13th April, 1894, average 21st April. On Sealand, earliest 23rd April, 1900 and 1904, average 25th April; at Welshpool, earliest 10th April, 1894, average 22nd April; at Colwyn Bay, 20th to 25th April.

In the *Zoologist*, 1898, p. 430, Mr. H. S. Davenport gives

an account of a Cuckoo laying a fresh egg in a Meadow-Pipit's nest on Aran, the nest at the time containing only one hard-set egg. In the *Zoologist*, 1896, 260, Mr. Oldham records finding a Cuckoo's egg in a Rock-Pipit's nest at Abersoch; this pipit has seldom been noted as a fosterer to the Cuckoo. At Barmouth, 12th and 13th July, 1901, Mr. L. Wilson Roberts observed three young Cuckoos—two had for foster parents the hard-billed Linnet, the third the soft-billed Meadow-Pipit. Mr. Cummings found a Cuckoo's egg in a Linnet's nest on Sealand, 14th May, 1899, and remains of a young Cuckoo in a Yellowhammer's nest on 9th July.

Doubtless the Linnet would at first feed the young birds on insect food, so that the fact of their being graminivorous is immaterial, but it appears that the young Cuckoo can flourish on vegetable food, for I know an instance of one being brought up by a pair of Pied Wagtails whose nest was close to a house, and they were observed to feed the Cuckoo chiefly on bread crumbs which were put out every day for the birds to eat.

The hawk-like appearance of the Cuckoo apparently does not protect it from the attacks of hawks, for on 21st May, 1901, Mr. Cummings saw the remains of one which had just been killed and eaten by a Peregrine at Bull Bay, Anglesey, whilst in 1903 Messrs. Coward and Oldham found another at an eyrie on the north-west coast of Anglesey.

At Barmouth Mr. Rawlings noticed that the Cuckoo was much less numerous in 1894 than the previous year, and suggests that this might have been the result of the long dry summer.

99.—YELLOW-BILLED CUCKOO. *Coccyzus americanus*
(Linn.).

Accidental straggler from America; obtained twice on west coast.

Captain G. Weir Cosens, of Aberystwyth, has in his collection

a specimen of the Yellow-billed Cuckoo, which was picked up dead on the beach north of Aberystwyth, 29th October, 1870. When I had the pleasure of examining the bird he was kind enough to give me some further details concerning it. It seems that the weather at the time was rough, with a strong westerly wind, and he had no doubt but that the bird was brought over by the gale. Although the locality where this specimen was found is not strictly within the limits of North Wales, it is very close to the boundary, and I include it on account of its importance—taken in connection with the second instance—as establishing the claim of the species to a place in the British avifauna.

The second example was obtained on the Menai Straits, 10th November, 1899, and I cannot do better than quote verbatim the following details given me by the owner, Mr. Geo. Dickinson, Liverpool. He writes:—"The Yellow-billed American Cuckoo, an adult female, was found on the 10th November, 1899, in the grounds of Craig-y-don, belonging to Mr. E. R. Bickersteth, F.R.C.S., about twenty yards from the Anglesey shore of the Menai Straits. It was dead, but quite fresh. Just before the date named there had been a succession of exceptionally heavy westerly gales, and it is surmised that the bird was blown away from the American coast by one of these, and thus was brought across. The bird, which is still in my possession, was in good condition and plumage, except that it had only two tail feathers left. On the day on which it was found, and also on the previous day, a great commotion was noticed, or rather heard, amongst the Blackbirds and other local birds about the place it was found, but whether this had anything to do with the Cuckoo I cannot say."

Mr. Howard Saunders in his *Manual*, after mentioning several occurrences of the species in Britain and Europe, remarks: "Admitting that all these have occurred at the time of migration, I cannot believe that they have crossed the Atlantic without human assistance."

In both the above instances, however, there seems no

reason to suppose that the birds received any human assistance, except that they may possibly have rested for a time on vessels, whilst everything points to the conclusion that they were carried here literally "on the wings of the wind."*

100.—BARN-OWL. *Strix flammea* Linn.

†DYLLUAN WEN = White Owl; ADERYN CORPH = Corpse Bird.

Resident and more or less common in most parts of the lowlands.

The Barn-Owl, though less common than the Tawny Owl as a rule, appears to be very generally distributed throughout North Wales in the lowlands. It avoids elevated districts, which possibly accounts for its comparative scarcity about Bala, although it is said to be common in parts of Montgomeryshire at somewhat higher levels.

It sometimes comes abroad in daylight, and does not appear to be inconvenienced by the light. Instances of this have been observed by Mr. Ruddy at Palè, at Welshpool by Mr. Butterfield, and in Anglesey by Messrs. Coward and Oldham.

From examination of hundreds of pellets, I have found that the Barn-Owl feeds on shrews to a much greater extent than any other owl; indeed, in some cases considerably more than half the total consisted of shrew remains, Field and Bank Voles ranking next. As a rule the Barn-Owl does not eat birds of any kind, but the choice of food apparently depends upon the feeding ground, for Mr. Oldham informs me that at a certain nesting place that he has known for

* A specimen in the British Museum was obtained on Lord Cawdor's estate in Pembrokeshire about 1832. Particulars regarding it appeared in the *Zoologist*, 1850.

† The derivation of the Welsh word for Owl—Dylluan—is given by Silvan Evans as from Twll and Lwan = the hooter from holes or crevices. Dr. John Davies (1632) gives it as from Dall (blind) and Huan (sun).

some years, House-Sparrows form the Owl's diet almost to the exclusion of anything else, whilst in Anglesey he found amongst castings of this species the skull of a Dunlin.

101.—LONG-EARED OWL. *Asio otus* (Linn.).

DYLLUAN GORNIOG = Horned Owl.

Resident; occurring in most districts where there are pine woods. In Anglesey probably chiefly a winter migrant, except along the Straits.

The Long-eared Owl is strictly nocturnal in its habits, and, as it is rather a silent bird, and during the day secludes itself in dark pine woods, whence it is flushed with difficulty, its presence in any district is by no means obvious, and is frequently unsuspected by resident observers. Consequently, the records here given are somewhat meagre and unsatisfactory. Still, they suffice to show that the species occurs in all the six counties of North Wales—even in Anglesey, which does not seem well suited to its habits.

It undoubtedly prefers pine-woods to any other, and by day crouches on a branch against the trunk, its plumage harmonizing wonderfully with the bark. Should pines not be available, it generally selects some other tree thickly covered with ivy, in the recesses of which it is quite invisible.

It lays its eggs on an old squirrel's drey, or in an old nest of a Magpie or other large bird. The eggs have a distinct creamy tinge, like those of the Stock-Dove, although both are generally described as white.

It feeds principally on small rodents and birds, and I have found in the pellets remains of birds as large as the Thrush and Blackbird.

ANGLESEY. Not uncommon Holyhead (Clulow); shot one there 16th November, 1901 (Edwards). Eggs found Menai Bridge (Humphreys). Seen by keeper near Beaumaris in May, 1905 (Coward, *Zoologist*, 1905, 386).

CARNARVON. Rare Bangor (Lort) and Penmaenmawr (Kneeshaw). Not uncommon Deganwy (Hutchinson). Saw fresh clutch of eggs found near Conway by Mr. T. Hague in May, 1902 (Forrest). Occurs in fir woods, Llanberis (Brinckman); a good many at Broom Hall, Pwllheli (Haigh). Used to breed Llangwstenin Woods, near Llandudno (John Price, *Llandudno Guide*).

DENBIGH AND FLINT. Resident and not uncommon in both counties. Occurs on Dee Estuary, Mold, Bathafarn, Colwyn Bay, and Llangwstenin (Dobie's list). Local St. Asaph (Rogers). Fairly common Denbigh (Congreve) and Llanarmon D.C. (Forrest, auth. keeper); bred there 1905 (Meares). Scarce Llangollen (Ruddy). Obtained Heswall on Dee Estuary (V. Wilson).

MERIONETH. Not uncommon Rûg (Wynn). One obtained Towyn (Kirkby), and one at Aberdovey (Jackson). Occurs in Braich y celin Wood, Aberdovey (Kershaw). Fairly common Dovey Estuary (Salter). Nested and reared brood in 1906 (Cosens). Occurs rarely about Barmouth (Rawlings). Scarce Penrhyn-deudraeth (Haigh). Six or eight seen in some coverts at Ynysfor when shooting (Evan B. Jones). Scarce Llandderfel; nest with young on old squirrel's drey, May, 1874 (Ruddy). Breeds near Machynlleth (Lewis).

MONTGOMERY. Breeds in pine-woods around Welshpool (Butterfield) and Llanfyllin (Forrest). Rare Leighton (Bruce). One shot Llanllugan (Lort). Seen trapped Llansantffraid (Kempster). Several in woods near Garthmyl (Fort). Several nests—adapted Wood-pigeon's—in thick plantation of Douglas pines at Marrington, near Montgomery; often frightened birds out of same (Horwood).

102.—SHORT-EARED OWL. *Asio accipitrinus* (Pallas).

DYLLUAN GLUSTIOG = Eared Owl.

Winter migrant, occurring in limited numbers on bogs and moors throughout the district; occasionally remains to breed.

Eyton wrote of this species: "Tolerably common in North Wales, where it is called the Woodcock-Owl from its arriving about the same time as that bird." The bird's status in

North Wales has not materially altered since these words were written.

It appears to frequent almost equally lowland bogs, sandhills, and heathery moors, and has bred in all these situations. Captain G. Weir Cosens found several pairs breeding on the open moorlands on Plynlimmon about 1886.

In the *Zoologist*, 1904, 25, Messrs. Coward and Oldham gave a most interesting account of the finding of one of these birds breeding on a bog in east Anglesey. On several occasions it was flushed from about the same spot, and on June 4th Mr. Cummings "found a fledged young bird crouching in the ling. When he took it up the little bird made no resistance, but kept its eyes upon him. When he placed it on the ground, however, and touched it again, it snapped and hissed, assuming a terrifying attitude by puffing out its feathers and arching its wings above its back. It also made several fierce attempts to fly at his face when he was bending over it. Meanwhile the old bird became terribly excited, swooping down close to his head, and uttering a wild, angry note which sounded like 'quack, quack, quack.' It pitched on the ground near him, assuming the terrifying attitude which is common to many of the owls, and rolling its head from side to side. As he left the moor the old bird followed, swooping close to his head repeatedly; indeed, he several times expected to be struck. So ferocious and persistent were these attacks when Mr. Cummings had the young bird in his hand, that he was glad to take shelter under a tree."

There seems to be some doubt as to when this bird lays. Authorities give "early in May," but in the case of the Anglesey bird the eggs must have been laid in the first half of April at the latest.

ANGLESEY. Used to see many in rough bogs, etc., while shooting in west Anglesey during winter; have shot one or two to identify (Marshall). Killed near Holyhead (Clulow, Eyre, and Edwards). Occurred at South Stack, 13th October, 1881, and Skerries, 7th November, 1887 (*B.A. Migration Reports*). Found breeding in Snipe bog, south-east Anglesey, 1903 (Coward, Oldham, and Cummings—see above).

CARNARVON. Common some seasons about Bangor (Lort); occasional Deganwy (Hutchinson), Nanhoron (Lloyd Edwards) and Carnarvon (Forrest, Wynne Williams). Not infrequent in autumn on moors round Capel Curig (Cobden). Often seen when Snipe shooting on the bogs near Pantglas (Haigh).

DENBIGH AND FLINT. Occurs St. Asaph (Rogers and Wrigley). One shot on sandhills there, 14th January, 1840 (Moses MS.). Scarce Denbigh, but seen on boggy ground near Clwyd; have skin of one (Congreve). Comes to Nantyffrith in October and November (Kyrke). One trapped on moor Llanarmon D.C., March, 1904 (Forrest). Occasional Dee Estuary (Brooke and V. Wilson). On moors at Maesmor, Abergele, and on sandhills at Talacre and Point of Air (Dobie's list). Specimen at the Lyth, Ellesmere, from Llansilin (Forrest). One Llangollen about 1886 (Ruddy); one shot Hilbre Island (C. and O., *Birds of Cheshire*).

MERIONETH. Met with most winters at Barmouth (Rawlings). Scarce in north-west Merioneth (Haigh). Occurs Penrhyn-deudraeth (Priestley), Ynysfor (Evan B. Jones), Dolgelley (Bailey). Shot Rhiwlas and Bodweni (Buckley). Not uncommon in winter on the peat bogs along the Dovey Estuary (Feilden). Shot Aberdovey (Jackson), and Machynlleth (Lewis).

MONTGOMERY. Rare; local specimen at Leighton (Naylor). Seen by keeper Marrington (Horwood); occasionally Llansantffraid (Kempster) and Llanfyllin (Lees); said to occur Garthmyl (Fort); rare Newtown (Williams); Breeds Plynlimmon (Cosens—see above).

103.—TAWNY OWL. *Syrnium aluco* (Linn.).

DYLLUAN FELYNDU = Yellow-Black Owl; DYLLUAN FRECH = Spotted Owl; DYLLUAN FIG = Hooting Owl; DYLLUAN RUDD = Ruddy Owl; DYLLUAN Y COED = Wood Owl; ADERYN CORPH = Corpse Bird; CWDIHW = "To-who."

Resident and generally distributed in the wooded lowlands; most numerous in Montgomeryshire and west Merioneth.

In North Wales this is the most numerous and widely distributed of the owls, being more or less common in all

wooded parts of the district up to about 500 feet elevation. It is particularly numerous along the English border of Montgomeryshire and on the west coast of Merioneth, but in Lleyn and Anglesey it is comparatively scarce.

Several instances of its laying eggs in rabbit burrows are recorded, and the Rev. F. C. R. Jourdain reports a case near Barmouth in which the eggs were deposited on the bare ground, beneath the shelter of a stone. The old bird was very fierce, and boldly attacked anyone who approached the spot too closely. Mr. Ruddy relates how a man, who climbed a tree near Bala to take the young of a Tawny Owl from a hollow, was furiously attacked by one of the parents, which flapped him with its wings, and scratched his face and hands with its talons, continuing to do so until he escaped to the ground.

Mr. O. V. Aplin has "known this Owl lay its eggs in an old Crow's nest in a low thorn bush among the mountains in west Merioneth. The bird was shot from the nest and the two eggs taken, so no mistake was made in the species." Mr. R. W. Calvert has found it nesting in cavities amongst rocks on Moel Siabod.

In the district around Towyn the light grey form of this owl is common, and I have seen several examples in which there was no trace of the tawny hue from which the species takes one of its trivial names.

This owl eats birds habitually, but the great majority of bird remains that I have found in its pellets have been those of the House Sparrow. Instances of its taking the chicks of pheasants, etc., are recorded, but they are very rarely authenticated. Colonel Davies Cooke, however, assures me that he has known the Brown Owl at Mold to "sit on a coop and take young pheasants," whilst a keeper at Gredington, on whose word I can rely, told me that he once (only) shot a Brown Owl in the act of carrying off a pheasant chick.

At Colwyn Bay Dr. W. B. Russell has heard four different sounds uttered by a pair of Brown Owls: (1) the hoot, (2) a bubbling sound, (3) a brooding sound like a hen with

chickens, (4) a short yapping sound one often hears when the bird is flying.

I once saw a pair courting on a chimney pot on a moonlight night. The male kept bowing and spreading his tail just like a pigeon, uttering subdued hoots the while.

Considering how common is the Brown Owl in Wales, it is a remarkable fact that the species is unknown in Ireland.

[TENGMALM'S OWL. *Nyctala tengmalmi* (J. F. Gmelin).]

Winter visitor, obtained once or twice in Flintshire.

Williams' *Llandudno Guide* (1861) states: "The Little Night Owl can only be considered an occasional visitor to this country It would appear to have been seen at Gloddaeth."

In former days naturalists confounded together under the name of Little Owl, *Strix passerina* Linn., three different species:—(1) *Strix passerina*, properly so called—a continental species never found in Britain; (2) *Athene noctua*, Little Owl: many have in recent years been imported from southern Europe and turned loose in England—it is doubtful if any obtained here are truly wild birds; (3) *Nyctala tengmalmi*, Tengmalm's Owl, a winter visitor from the north, with thick soft plumage, more thickly feathered legs, and larger white spots than the last.

Pennant in his *Tour in Wales*, speaking of the Hundred of Maelor, in Flintshire, says:—"The Little Owl, that rare species, has been obtained in some woods near Overton." Also in his *British Zoology* (1812, 270) he states that the Little Owl (*Strix passerina*) "is sometimes found in Yorkshire, Flintshire, and also near London." In this last passage, when mentioning Flintshire, he doubtless refers to the Overton bird, and as his home was in Flintshire it is at least likely that he drew his figure and description from this same

bird. In determining the species of the Overton specimen, we have only probabilities to guide us. No. 1 may be dismissed as altogether improbable. No. 2 is just possible, but not very likely, as at the time when Pennant wrote none are known to have been imported. The balance of evidence is distinctly in favour of No. 3, Tengmalm's Owl, both because the species has occurred in Britain many times quite naturally (it is not known to have ever been imported), whilst the figure in the folio edition of Pennant's *British Zoology* (assuming it was drawn from the Overton specimen) appears to represent Tengmalm's Owl. This view is also taken by Professor Newton, as editor of the 4th edition of *Yarrell*.

Another "Little Owl" (species doubtful) is recorded by Dr. W. H. Dobie in his list:—"Mr. James F. Lowe about twenty-five years ago had a small Owl with a body about the size of a Thrush's given to him by the late Mr. Thyre; it had been caught in a wood near Gresford; it lived for about a year and was then destroyed by a cat. Mr. Lowe thinks he identified it from Wood's *Natural History* as Tengmalm's Owl, but allows that it may have been the Little Owl, which seems more probable, especially as it is said to have been young and unable to fly when first caught." Mr. Peter Inchbald mentions in Williams' *Llandudno Guide* (1863) a Little Owl seen at Gloddaeth.]

[LITTLE OWL. *Athene noctua* (Scopoli).]

In the *Zoologist*, 1900, p. 556, Dr. W. H. Dobie records an undoubted example of *Athene noctua* obtained in Anglesey by one of a pheasant-shooting party in the winter of 1899-1900. It is in the collection of the late Mr. Stevens, Chester. In his list Dr. Dobie mentions another small Owl which may possibly have been this species. See passage quoted above under Tengmalm's Owl.]

[SNOWY OWL. *Nyctea scandiaca* (Linn.).

Reported once or twice in winter.

Mr. W. A. Rogers, of St. Asaph, whose father used to practise taxidermy in that city, well remembers a Snowy Owl being sent in for preservation that had been obtained on or near Snowdon. This would be probably about 1870, but I have been unable to trace the specimen, and Mr. Rogers, unfortunately, cannot remember for whom it was stuffed. He says it was a fine specimen and beautifully shot. Mr. C. Lloyd Edwards writes from Nanhoron, near Pwllleli, on 19th January, 1903 :—"I saw a White Owl in the park here about two months ago—I had never seen one before,—he looked very big and was the *whitest* bird I ever saw ; very white compared to the sheep which were close by. He was bigger than a Herring Gull, with very large wings, but I was some way from him." This description, coupled with the time of year (mid-November), seems to indicate that the bird seen was a Snowy Owl.]

104.—MARSH-HARRIER. *Circus æruginosus* (Linn.).

BOD Y WERN, or BOD Y GWERNI = Marsh Kite ; HEBOG Y WERN = Marsh Hawk.

Resident ; now very rare ; occurs on bogs and moors.

Eyton, writing in 1838, says of this species : "Common in Wales. This bird takes endless varieties with regard to the colouring of the head, the crown being sometimes of the same colour as the rest of the body, and sometimes nearly white." It appears from this that he was not aware of the sexual differences in the Marsh-Harrier. A. G. More marked

it as breeding in North Wales, but gave no details. There seems to be a general impression amongst observers that the bird was at one time common throughout the district, but the actual records are meagre and unsatisfactory, whilst there is a doubt whether certain of the examples mentioned as having occurred on moorlands may not possibly have been Hen-Harriers.

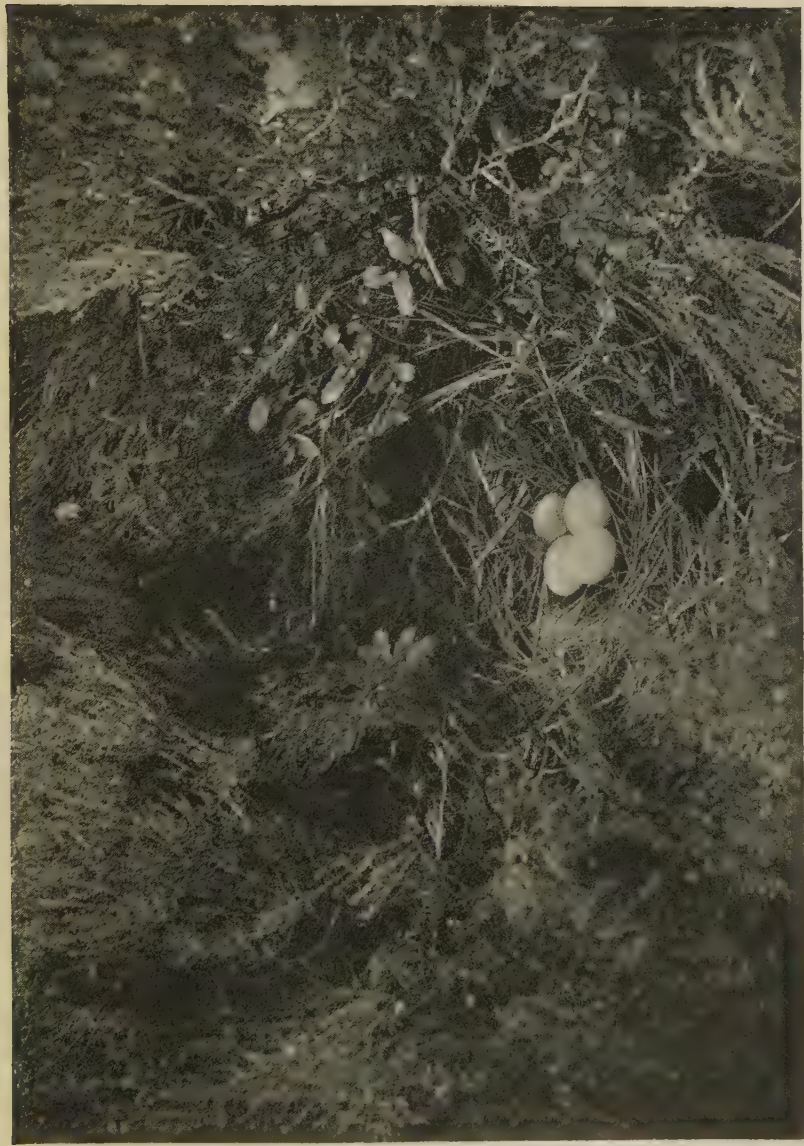
ANGLESEY. One haunted certain bogs near Holyhead for eight years, being seen there from time to time up to 1902. Mr. W. G. Edwards watched it quartering the ground on the afternoon of 11th February, 1902, and was within 100 yards of it at times (Edwards). An old resident at Ty Croes, named David Owen, remembers hawks "with owl-like flight" which used to breed on the bogs in west Anglesey (Cummings and Forrest). Shot one about 1884 at Llanbabo (Eyre).

CARNARVON. In Llandudno district used to be "found on low or level lands, building in those tussocks of grass or sedge so observable in marshy places . . . it was once more common" (Williams' *Llandudno Guide*, 1863).

DENBIGH AND FLINT. Sir Piers Mostyn has an immature specimen at Talacre (Dobie's list). One in collection at Lyth, Ellesmere, from Llansilin where it was observed several times by the late Mr. A. T. Jebb (Forrest: also *Bygones*, 1892, 379). Female in case at Bodelwyddan, obtained on the estate (Forrest).

MERIONETH. One killed Moel Ferna, 1877, and another seen 1896; one at Llandrillo, 28th October, 1880; nested on Berwyns in 1869 and 1877 (Ruddy). One is said to have been killed on the Traeth Mawr early in the eighties by John Williams, keeper at Deudraeth Castle, but I did not see it (Caton Haigh). Capt. Cosens has a young male obtained on Borth Bog, about 1870, and the species was formerly numerous on the bogs in the neighbourhood of the Dovey Estuary (Salter).

MONTGOMERY. Heard of one at Llanwddyn (Buckley). Seen once or twice in Llansantffraid district (Lees).



NEST OF MONTAGU'S HARRIER, NEAR BALA.

Photographed by H. E. FORREST.

[To face page 216.]

105.—HEN-HARRIER. *Circus cyaneus* (Linn.).

BOD TINWYN = White-tailed Kite; HEOG LLWYDLÂS (Male) = Grey-blue Hawk; ADERYN SANT-SILIN (South Wales, "Silvan Evans' *Dict.*") = St. Julian's Bird.

Resident; now very rare; occurs chiefly on moorlands.

Of this species Eyton remarked: "I have several times observed these birds near Corwen. It is remarkable with what regularity they return to the same beat at the same time for many days together, which propensity often tends to their destruction." A. G. More marks this Harrier as breeding in North Wales, but gives no details.

It is generally accounted to have been common in the district years ago. Mr. Chas. G. Beale informs me that he has eggs of the Hen-Harrier, which he took on the moorland dividing Montgomeryshire from Merioneth, above Llangunnog, about 1866. It used to breed regularly in that district in the sixties. His father "had this grouse moor from 1861 to 1871, and for some years previously there was no keeper on it, the place being given up to hawks and other depredators." Besides the eggs, Mr. Beale took three young Harriers from the nest, and kept them alive for a time. They were quite untamable. Two died, and he gave the survivor to the late Aaron Franklin, taxidermist, Birmingham. He never had an adult bird.

It may be well to point out that the Hen-Harrier and Montagu's Harrier resemble one another so closely that it is no easy matter to distinguish them apart when seen at any distance in open country, so that it is very possible that some of the birds reported as Hen-Harriers may have belonged to the next species. As, however, the Montagu's Harrier is a

summer migrant only, it is evident that all the examples seen in winter must have been Hen-Harriers.

ANGLESEY. One shot Holyhead, 1881 (Edwards). One fired at and wounded near Bryngrwn, about 20th December, 1900 (Dickinson).

CARNARVON. Bangor district, met with on a few occasions prior to 1881 (Lort). "The Hen Harrier or Dove Hawk has been noticed near Llandudno" (Williams' *Llandudno Guide*, 1863); used to be a denizen of this part (Price's *Llandudno Guide*, 105). A pair of Harriers, probably this species, nested near Nevin in 1902; saw birds repeatedly (Thring).

DENBIGH AND FLINT. Female in collection Sir Pyers Mostyn, Talacre; another, Plas Heaton, shot about 1840; one killed and others seen Maesmôr near Corwen (Dobie's list). Male seen quartering the moor at Bodidris in 1891 (Kyrke). Pair in case Bodelwyddan obtained on the estate; pair in collection at the Lyth, Ellesmere, from Llansilin where the late Mr. A. T. Jebb saw the species repeatedly up to 1872 (Forrest). One killed Bodelwyddan in November, 1881, and another against telegraph wires near Ruabon, 16th April, 1892 (Ruddy); observed several times Corwen (Eyton—see above), Llanrwst, 1830 (*Faunula Grustensis*).

MERIONETH. A male killed on the Berwyns many years ago, and a female on Moel Ferna in 1877 (Ruddy). Male and female obtained locally, in collection at Rûg (Wynn). In the autumn of 1880, one resident in the valley by Craig Aderyn, Towyn (W. E. S. in *Field*, 20th November, 1880); 20th April, 1902, bird seen on Moel Wyn believed to be this species, but weather misty (Haigh). Nested about 1890 at Dinas Mawddwy (Buckley). One seen near Bala in summer, 1896 (Davenport, *Field*, 12th September, 1896). Harriers reported as frequently seen years ago on moors south of Bala and used to breed there (Burton). Female shot on the moor at Glyndyfrdwy, mid-December, 1896 (*Bygones*, 1896, 495). "I am informed that it used to breed regularly—if it does not do so now—in one part of Merioneth" (Aplin).

MONTGOMERY. Seen twice Llansantffraid district (Lees). At Llanllugan, in the eighties, one stayed all summer (Lort). Saw a male on Shropshire border near Mainstone in 1900 (Brown). Used to breed Llangunnog district (Beale—see above).

106.—MONTAGU'S HARRIER. *Circus cineraceus*
(Montagu).

Summer migrant, very rare; only known to have occurred in Denbigh and Merioneth.

Eyton writes:—"But one of this species has come under my observation; nor have I heard of others. The specimen alluded to was killed near Dolgelley." I have examined an adult female in the possession of Mr. A. Foster, of Bettws-y-coed, which was trapped on Lord Penrhyn's moors, near Pentre Voelas, in 1889. Mr. F. T. Feilden has a similar bird, which he obtained to the south of the Dovey Estuary on 5th November, 1888—a late date. In June, 1900, a pair nested in the deep heather on the moor about four miles south of Bala, and I photographed the nest *in situ* on 2nd July, though, unfortunately both birds had been shot then by the keepers. The nest contained four eggs, which were on the point of hatching. The birds were preserved, and are now in Sir H. B. Robertson's collection at Palè; the eggs are in the possession of Colonel Burton, of Bala. In 1904 Mr. H. D. Crompton saw a bird which he believes was of this species on the Berwyns, near Carrog.

107.—COMMON BUZZARD. *Buteo vulgaris* Leach.

*BONCATH = Buzzard; BODA = Buzzard; BODA LLWYD = Brown Buzzard; †BARCUD, or BARCUTAN = Kite.

Not uncommon resident in the west; occasional autumn visitor to the east; almost unknown in Anglesey.

In the whole of the Welsh fauna very few species equal in

* Probably from BODA CATH = Cat Hawk, from its mewing cry.

† In North Wales this name is always used for the Buzzard, and the English-speaking natives always speak of the Buzzard as the "Kite." In South Wales the custom is different: the Buzzard is never called BARCUD, but is spoken of as BODA. Here the term BARCUD is used for the true Kite.

interest the Common Buzzard, and there is perhaps no part of Britain in which the naturalist can study the bird to greater advantage than amongst the mountain fastnesses of Wales.

It is now many a long year since the Buzzard ceased to deserve the epithet "common" in the midland and southern counties of England, and latterly it has ceased to breed in the eastern counties of North Wales. Further to the west, however, it is still to be found in fair numbers, whilst in certain districts, which need not be particularized, it may be properly described as common.

During the last five years it has been my good fortune to pay frequent visits to certain of these Buzzard haunts, thereby gaining an intimate knowledge of the bird and its habits. The experiences thus acquired, supplemented by the observations of naturalists in the same districts, form the basis of the following account of the Buzzard in North Wales.

Bygone writers describe the Buzzard as a woodland bird and as nesting in trees and doubtless it was so at one time, but it has now almost entirely given up nesting in trees (I only know of one district where it habitually does so), and has taken to the cliffs. The Buzzard's nest when on a cliff is usually amongst the vegetation, while the Raven's is placed on the bare rock. I have come across instances of the Raven occupying an old Buzzard's nest, and *vice versa*, whilst in South Wales I was shown a nest in a large oak which was said to have been occupied in successive years by the Kite, Raven, and Buzzard. There is one striking point of difference between the cliff sites utilized by the Raven and Buzzard—the former frequently nests on sea-cliffs (as well as inland) but I do not know of a single instance of the Buzzard nesting on a sea-cliff, though I have seen nests on inland cliffs within three or four miles of the sea.

The nest is a bulky one (especially when it has been used repeatedly) and is built of large sticks as a foundation, with smaller ones to form the sides. The lining is varied, but

generally consists of moss, bits of bracken, rushes, etc., while pieces of heather, wool, crow-berry, bark and other materials are sometimes used, while in one nest there was a stone splinter about three inches long which must have been placed there intentionally as the nest was in a tree.

An interesting habit of the Buzzard is that of decorating its nest with fresh green leaves—usually sprays of larch or ivy. Apparently these are renewed from time to time as they always seem to be fresh—never faded.

It is noticeable that whether the site of the nest be on tree or cliff it is always high up on the side or upper end of a valley so as to command a wide outlook. All the Buzzards' nests in trees that I have seen were in oaks, but it occasionally builds in a larch or fir. In either case the nest is placed on one of the larger boughs against the trunk, and is often not more than about ten feet from the ground. Each pair has usually two nests near to one another and generally uses them in turn, but sometimes the birds will visit both nests early in the spring and put both into good repair, as if uncertain which to use.

The eggs usually number three—occasionally two and exceptionally four. They are of a dull greenish or bluish white, more or less blotched with reddish brown, with lilac under-markings. The red marks often look exactly like blood that has been spilt on the egg and then partly wiped off, leaving a smear. The amount of marking varies greatly, some eggs being almost devoid of the red blotches, but the lilac under-markings are always discernible in fresh specimens, however faintly. These fade away in old cabinet-specimens; the tint of the ground-colour also fading to a dead white. The eggs of Welsh Buzzards are distinctly larger—on the average—than continental examples, though their size varies considerably. A nest which I found in 1904 contained two very large and splendidly marked eggs, and one very dwarf one with few marks.

The hen bird often becomes "broody" quite early in the spring and will go and sit on the nest long before she is

ready to lay. The first egg is generally deposited about 24th April, the earliest date noted being April 15th. An interval of from three to five days elapses between the laying of the eggs, but the bird begins to incubate directly the first egg is laid. The result of this is that the eggs hatch successively at intervals of several days, so that the chicks are of different ages: the first hatched being possibly ten days older than the last. The firstborn being the strongest, not only secures the lion's share of the provender brought to the nest by the parents, but in many cases attacks and kills its fellow nestlings, thus appropriating the whole of the spoil.

In curious contradiction to the usual condition of affairs, Mr. Ruddy records how a few years ago there were nests of the Raven and Buzzard close together on a mountain precipice near Bala and each pair reared *four* young ones.

The Buzzard rears two broods in a year and like most birds will lay again if robbed of its first clutch of eggs.

Both sexes take part in incubation. When not engaged in procuring food, the bird which is off duty generally stations itself on some tall tree or crag, whence it can scan the country all round. On the approach of an intruder it gives the alarm to its sitting mate, who thereupon quits the nest. The two then begin to fly around high in the air, uttering plaintive cries. The note is "aeow"—very much like the mew of a cat, but more prolonged. There is considerable individual variation in the behaviour of the sitting bird. Often it will admit of a very near approach before quitting the nest, whilst in other instances it will slip off silently whilst the intruder is still a long way off.

When first hatched, the young are like balls of white down; but the colour quickly becomes yellowish, and then changes to a dull grey on the back and wings, lighter beneath. The young stay in the nest about three weeks, and during the fourth week only venture forth a little way, returning at night to sleep in the nest. Not till they are a month old do they fairly launch themselves on the wide world. As with

other hawks, the parents drive away their progeny when well able to shift for themselves. Thus it happens that in autumn Buzzards appear singly in various parts of England, and those that get shot nearly always turn out to be immature.

I have never known the Buzzard to act aggressively, but that it will do so occasionally is well authenticated. In the *Field*, 2nd July, 1887, Rev. C. Wolley Dod describes how, as he was reclining on the slope of a mountain in Merioneth, a male Buzzard repeatedly charged down at him from behind, with talons extended threateningly, but it always veered off when within a few yards, and never actually touched him. The female was within sight, flying about the mountain precipices, but took no part in the demonstration.

Mr. O. R. Owen has twice been attacked. The first time was in May, 1901, when a Buzzard pursued him for more than an hour, making swoops towards him repeatedly, and at length actually knocked off his hat whilst he was stooping over a Ring Ouzel's nest. Two years later he had a more remarkable experience, not unattended with danger. On 3rd May, whilst searching for a Buzzard's nest on a mountain cliff, he was startled by the male bird suddenly swooping close to his head, which nearly caused him to lose his footing. Luckily, there was a small ash tree close by, and to this he clung with one hand, whilst with the other he warded off the determined attacks of the bird for over an hour, until, with oncoming twilight, it desisted, and released him from an awkward position. Next day he went with a friend, when the Buzzard selected the latter for his attacks, frightening him so much that he begged Mr. Owen to come away at once. Subsequent visits were made on the 10th, 17th, and 30th May and 6th June, and on each occasion this fighting bird attacked vigorously, especially on the 17th, when it made innumerable rushes at him, sometimes at the rate of three in a minute. Twice he hit it on the wing as it passed his head. It came on with talons outstretched and beak wide open, and, dashing past at a great rate with wings half closed, turned round rapidly and came back in the opposite

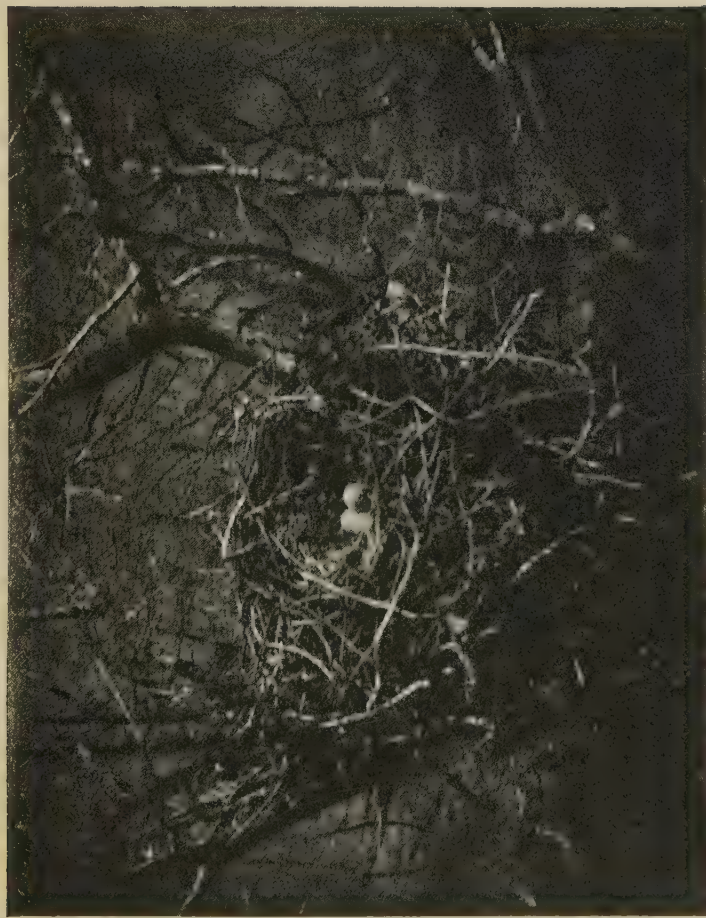
direction time after time. Now and then it soared above him, and descended right at him with great force, and when he left it followed for quite a mile.

The most striking sight, Mr. Owen says, was when the Buzzard, after hovering for a few moments in mid-air, would come down with wings half-closed at lightning speed, but seeing him with stick upheld ready for the attack, would pull up so suddenly as to throw itself right over breast uppermost. Then recovering in an instant, it would make a fresh dart at him.

Although the flight of the Buzzard is not very rapid there is an easy grace about its aerial movements that renders it quite delightful to watch. The wings are large and very broadly rounded at the tips, like those of an owl. When once fairly launched into the air the bird flaps its wings very little, but—holding them expanded and inclined steeply upwards—it sails slowly about in spiral curves, sometimes for several minutes together without any visible movement of the wings. It can even suspend itself motionless in the air for some seconds like a Kestrel, but apparently without the vibrating motion seen in that species.

Its perfect mastery of the air is seen to even greater advantage when, as often happens in Wales, it is being mobbed by Crows. The crow tribe seems to have an intense hatred of the Buzzard, perhaps because it occasionally takes a young Crow from the nest to feed its own young. I have seen between thirty and forty Crows mobbing a Buzzard; one after another dashing down at it again and again. The Buzzard seemed to disdain their attacks, never hurrying itself, but merely swerving a little to right or left to avoid them. Ravens, Jackdaws, and Kestrels will also attack the Buzzard, but always with the same result—they never succeed in touching it.

Few sights in the bird-world are so charming as a party of Buzzards soaring together on a summer's evening. About sunset, first one and then another Buzzard comes sailing out from the hills into mid-air and begins to soar round in spiral



COMMON BUZZARD'S NEST IN AN OAK-TREE—MERIONETH.

Photographed by H. E. FORREST.

[To face page 224.]

curves; soon another joins them, and then another. [I have seen five, and a friend, on whom I can rely, saw eight, and was told of twelve being seen together.] Now commences a series of the most marvellous evolutions in the air—the birds pass repeatedly over and under one another, wheel round and return, ever mounting gradually higher and higher, their plumage illumined so brilliantly by the horizontal beams of the setting sun that every mark stands out with wonderful distinctness. Ever higher do they go till at last they dwindle to mere specks in the sky and, becoming almost invisible, finally vanish in the fading light.

Examination has proved that the food of the Buzzard consists chiefly of moles, voles, mice, rats and young rabbits, the latter generally small, but sometimes half-grown. It also eats beetles and worms, and is not averse to carrion. It very often falls a victim to this last propensity, through partaking of the poisoned carcase of a sheep or lamb placed to destroy Crow or Raven. The stomachs of two obtained in Merioneth, in February, 1905, contained respectively a mass of large earthworms, and remains of a Rook or Crow. The Buzzard will take birds when it can obtain them easily, but it never flies them down, and thus only secures sickly or wounded individuals.

In the *Field*, 12th September, 1898, Mr. H. S. Davenport states that in January and February, 1897, three Buzzards were so tamed by cold and starvation that they came and fed and fought on the grass plot in front of the house in Merioneth where he was staying.

ANGLESEY. Only once seen Aberffraw (Gosling).

CARNARVON. Among the mountains (many observers). Seen on the east side of the Rivals about 1890 (Aplin). Used to breed on Penmaenmawr (Williams' *Llandudno Guide*); Penygroes (Thring).

DENBIGH AND FLINT. On the moors and mountains (Halhed, Russell, Wynn, Rogers, Watts, and others). Three in case Bodelwyddan obtained on estate; two at the Lyth, Ellesmere, from Llansilin (Forrest). Recorded, chiefly in autumn, on Dee Marshes, near Ruthin, Moel Famau, Rûg, Talacre, etc.

(Dobie's list). Llangollen, one seen 17th May, 1900 (Owen). Bred near Llanarmon D.C., in 1904; often shot in winter by keepers (Meares); a few in winter Llangollen (Ruddy).

MONTGOMERY. Frequent Llanbrynmair (H. Lester Smith). Seen occasionally Carno (Davies), Newtown (Williams), Llanllugan (Lort). One shot Llangunnog, 1867 (Fort). Several shot in autumn, Welshpool; Maesmawr, 29th September, 1902 (Forrest); frequent Llanwddyn (C. Wilson).

MERIONETH. Among the mountains (many observers).

108.—ROUGH-LEGGED BUZZARD. *Buteo lagopus*
(J. F. Gmelin).

BODA GARWGOES = Rough-legged Buzzard.

Autumn and winter migrant; rare in the east, still rarer in the west.

The Hon. C. H. Wynn has a very fine series of six Rough-legged Buzzards, all taken on the Rûg moors near Corwen, the two most recent in February, 1891. In 1881 a specimen (in the collection of Mr. A. Foster, Bettws-y-coed) was shot on the Gwydir estate, near Dolwyddelan; another at Bodidris, near Mold, on 16th November, 1891. Dr. Dobie, in his list, mentions one in the collection of Sir Pyers Mostyn, shot at Talacre, in 1839, and that the species has been shot at Nantffyfrith by Mr. R. H. Venables Kyrke. Mr. Ruddy states that on 23rd January, 1893, one was seen at Llyn Mynyddlod, near Llandderfel. Mr. J. H. Wrigley says that one was shot in the rabbit-warren at Point of Air in October, 1878; it is preserved at Soughton, Mold. In March, 1904, I saw a stuffed one being used as a scarecrow (!) in a keeper's garden at Llanarmon D.C.; it had been trapped on the moor about 1893. A specimen obtained in Flintshire is mentioned in a note to the 1812 edition of Pennant's *British Zoology*, 1, 228. Mr. Percy Lewis, of Machynlleth, has an example obtained locally.

Golden Eagle. *Aquila chrysaëtus* (Linn.).

ERYR = Eagle ; ERYR MELYN = Yellow Eagle ; ERYR EURAIDD = Golden Eagle.

Formerly resident in the Snowdon range, but became extinct more than a century ago.

Thomas Johnson, the botanist, when collecting plants in 1639 on Carnedd Llewellyn, records that Eagles were then nesting there, and that fear of the Eagles caused the rustic, who was acting as his guide, to refuse to take him up to certain cliffs which he wished to explore. Ray and Willoughby too, in their itineraries, mention the Golden Eagle as breeding annually on the rocks of Snowdon.

More than a century later, Pennant stated in his *British Zoology*, "This kind of Eagle sometimes migrates into Carnarvonshire, and there are instances, though rare, of its having bred in the Snowdon Hills, from whence some writers give that tract the name of Creigiau'r Eryri, or the Eagle Rocks."

Evans in his *History of Wales*, written about 1800, speaks of the Golden Eagle as still found about Snowdon.

No author gives any instance of the nest having been found, nor have I been able to discover any actual occurrence of the bird during the last century, nor any existing specimen of the species obtained in Wales. From time to time reports of Golden Eagles being seen or obtained have appeared in newspapers, but on investigation these have always proved to be either immature White-tailed Eagles or Common Buzzards. Both in colour and form the latter closely resembles an Eagle, and may easily be mistaken for one, unless the observer is near enough to note its smaller size. There is no doubt that the pair of birds seen on Glyder Fawr, 30th September, 1870, and described by Mr. A. G. More as Golden Eagles in the *Zoologist*, as well as another

pair in the same place, recorded similarly in the *Field*, 1st May, 1886, were Buzzards.

Going back to the sixteenth century, we have evidence of Golden Eagles in Denbighshire. Leland thus quaintly writes of Castell Dinas Bran, Llangollen: "There bredith on the Rock Side that the Castelle stondith on every yere an Egle, and the Egle doth sorely assaut him that destroith the nest by going down in one Basket and having another over his hedde to defend the sore stripe of the Egle." Pennant paraphrases Leland's account in his *Tour*. *A Guide through North Wales*, by G. J. Bennett (published in 1853), mentions that in this same locality a certain crag was known as the "Eagle's Rock" (p. 53).

Professor W. Boyd Dawkins in his book on *Cave Hunting*, p. 150, mentions finding the remains of an Eagle in a cave at Perthi-Chwaren, near Llandegla, Denbighshire, but these, of course, were of prehistoric date.

109.—WHITE-TAILED EAGLE. *Haliaëtus albicilla*
(Linn.).

ERYE TINWYN = White-tailed Eagle; ERYE CYNFFON WEN
= White-tailed Eagle.

Rare winter or spring visitor.

It is noteworthy that none of the old writers mention this species as occurring in North Wales, probably because they confounded it with the Golden Eagle. All the known instances are modern, and the total is actually less than the number recorded for the single neighbouring county of Salop.

Mr. Thomas Jones, landlord of the Hand Inn, Llanarmon D.C., related to me that he was present when an Eagle was shot near that place about 1855; it was sent to Henry Shaw,

of Shrewsbury, for preservation, but its subsequent history is unknown.

There is an immature specimen in Sir Henry B. Robertson's collection, shot at Llandrillo in 1863, whilst feeding on a hare which it had been seen to course and kill. A similar bird, showing no white in the tail, is in the collection at Bodelwyddan, near St. Asaph; it was obtained on the estate about 1873.

In June, 1886, Mr. E. Gosling came across one engaged in eating a rabbit on Aberffraw Common, Anglesey; it was in a depression amongst the sandhills, and he got within five yards before it perceived him.

A White-tailed Eagle—reported in the *Field* at the time as a Golden Eagle—was shot on a spur of Plynlimmon, 22nd November, 1887, by Mr. Richard Davies, of Llanidloes.

A fine old female, with an entirely white tail (now in the possession of Mr. Williams, postmaster, Bala), was found at Llangower, near Bala, after a gale, on 28th February, 1899. It had lost the upper mandible by some accident. Another is reported by Mr. Ruddy as having been seen near Llandderfel in April, 1900, whilst in the autumn of the same year Mr. F. C. Cobden tells me that he saw an Eagle on a rock above the Capel Curig lakes, and in the spring of 1904 Mr. F. T. Feilden observed one at Glandovey. Others are reported in the *Field* as having been seen over the Bird Rock, Towyn, on 13th November, 1880, and at Beddgelert in August, 1859. As in each case the reporters speak of the Buzzard as common thereabouts it seems likely that the birds they saw really were Eagles.

[GOSHAWK. *Astur palumbarius* (Linn.).

The Goshawk is included in the list of birds found at Llanrwst, published in *Faunula Grustensis*, 1830, but with no details. R. Parry, in Williams' *Llandudno Guide*, 1855, says "the Goshawk we insert on the authority of the keeper, who says it has been shot on the Mostyn estate."]

110.—SPARROW-HAWK. *Accipiter nisus* (Linn.).

GWIPA ; GWIPAI ; LLYMYSTEN ; GWALCH = Hawk ; HEBOG
LLWYDWYN = Brown-white Hawk.

Resident, common in most wooded districts; not numerous in Lleyn or Anglesey.

In the eastern half of North Wales (especially Montgomeryshire) the Sparrow-Hawk probably outnumbers the Kestrel, but in the west the reverse is the case. In Montgomeryshire Mr. Horwood has observed that the males migrate on the approach of winter. The Sparrow-Hawk is essentially a woodland species, and its comparative scarcity in Lleyn and Anglesey is evidently due to a lack of trees, since it occurs in the few wooded tracts in those districts. On Lord Penrhyn's estate, at Bettws-y-coed, Mr. A. Foster recorded 738 killed in the twenty-eight years ending 1902. In Merioneth, Mr. O. V. Aplin observes that the Sparrow-Hawk is not common in the west, though more numerous in the east.

Brockholes, speaking of the country north of the Dee Estuary, says: "This hawk always makes its own nest here. If this be robbed, a second is occasionally built; but generally the second laying of eggs is placed on any old nest which is sufficiently large. If robbed a second time, a third set of eggs is sometimes laid. I once found a third laying of eggs on some leaves which had accumulated in a fork of a tree." Mr. Cummings tells me that on Sealand the Sparrow-Hawk habitually makes its own nest *in toto*. So far as my own experience goes, I should say that this species, more often than not, builds its own nest, though it often utilizes that of some other large bird as a foundation.

111.—KITE. *Milvus ictinus* Savigny.

BARCUD, or BARCUTAN = Swift Hawk; BOD = Kite; BEIRI = Kite; BOD WENNOL = Swallow Kite; BOD FFORCHOG = Fork-tailed Kite; BODA CHWIW = Whistling Kite.

Former resident, now only a rare casual visitor.

Eyton, writing in 1836, speaks of the Kite as "formerly common in Wales, but now becoming rare in consequence of the persecutions it has undergone from gamekeepers." Many writers describe it as common generally in the thirties. Thus, in *Faunula Grustensis* (1830), it is included amongst the birds of Llanrwst without comment, whilst Dr. A. H. Trow tells me that his father, Mr. Wm. Trow, remembers it as quite common in the thirties about Newtown (Mont.). He frequently took young from the nest in some tall tree, and reared them by hand. More recently the bird has been seen thereabouts by Mr. E. T. Williams. Captain Wm. Buckley knew an old keeper, now dead, who remembered Kites breeding at Dinas Mawddwy about 1855.

A specimen in the Rûg collection was shot near Ruthin about 1827. Dr. W. B. Russell reports one shot by a keeper at Cefn Coch many years ago, whilst Dr. Dobie's list mentions the Kite as having been seen at Colwyn Bay, but no dates are given. One is said to have been seen repeatedly on the Bodawen estate, Anglesey, about 1885.

A specimen in the collection at the Lyth, Ellesmere, was obtained at Llansilin, and another was seen there in 1891 by Mr. A. T. Jebb.* He was watching some Redwings beneath a hawthorn tree where the ground was clear of snow when a Kite suddenly swooped down and carried one of them off in its talons. The same year one was shot at Menai Bridge by

* *Bygones*, 1892, 379.

Mr. E. G. Humphreys, whilst Mr. F. T. Feilden has a fine male obtained at Glandorey on 15th August, 1889. Mr. Abel told Dr. Salter that old people remembered the Kite breeding on the Bird Rock at Towyn, and that one haunted the woods at Peniarth Uchaf from November, 1893, to March, 1894. Mr. E. W. Kirkby has also seen the Kite in the same district, and Mr. Wm. Franklin, of Towyn, has a pair which his father received in the flesh and preserved in 1855.

The most recent occurrences were in May, 1895, when Mr. H. S. Davenport watched one soaring high in the heavens above Glanllyn, on Bala Lake; and in 1905, when a pair are said to have been seen over the Dovey Estuary.

In looking over the above records one cannot but be struck by their scantiness. It seems that the Kite became scarce in North Wales as far back as the thirties, and ceased to breed there some twenty years later. This is all the more remarkable because in the adjoining counties of South Wales it nested regularly up to the end of the nineteenth century, and still does so precariously, though in sadly reduced numbers.

The late Mr. J. W. Lloyd, of Kingston, Herefordshire, had, in captivity, for about ten years, a very fine female Kite, which was taken from a nest in Cardiganshire in 1894. In the wild state this species is habitually rather silent, but I have heard Mr. Lloyd's bird utter two distinct cries—a long-drawn shrill "whew," and a series of short screams; the former being used as a call to attract its owner's notice; the latter as a note of triumphant satisfaction when it seized its prey. It was fed on all kinds of flesh, and was particularly fond of freshly-killed Blackbirds. During the ten years Mr. Lloyd had it, the colour of the plumage gradually changed. At first it was a dark brown, but at each moult it assumed more and more of a red hue, till at length it became the colour of mahogany.

112.—HONEY-BUZZARD. *Pernis apivorus* (Linn.).

BOD Y MÊL = Honey-Buzzard.

Summer migrant, occurring chiefly on the autumn migration; very rare.

Eyton does not mention the Honey-Buzzard as occurring in North Wales. Dr. Dobie records a specimen in Mr. Congreve's collection at Burton, dated 22nd September, 1841. This was probably obtained somewhere in the neighbourhood, but whether in Flintshire or Cheshire is not known. The late Mr. Stivens, Chester, had a specimen believed to be out of North Wales, but he had unfortunately forgotten details.

In the *Field*, 10th September, 1859, F. D. S. writes: "On the 20th August I observed (and watched for half-an-hour) a splendid pair of Honey-Buzzards (*Buteo apivorus*) on the road between Llwyngwrl and Llanegryn, near Towyn."* Another occurrence in the same district is recorded in the *Field*, 28th October, 1876, by Mr. J. Adams Partridge, Penmorfa House, Towyn, who saw a pair on Towyn marshes; shot one, and nearly obtained the other.

Mr. Dumville Lees told me that there is a specimen in Mr. Peate's house, Llansilin, that was killed near Llangedwyn about 1875; whilst I have seen two in the collection of Mr. A. Foster, both of which were obtained near Dolwyddelan, one about 1882, the other earlier.

It will be noticed that in the instances where the time of year is recorded the birds were seen in autumn, and in North Wales it seems to occur chiefly on the autumn migration. The most recent example, however, was an exception. This was obtained near Kerry, Montgomeryshire, 21st May, 1906, and is now in the possession of Mr. G. D. Harrison.

There is no evidence that the Honey-Buzzard has ever nested in the district.

* The Common Buzzard is rather numerous in this district; may these not have been of that species?

113.—GREENLAND FALCON. *Falco candicans*
J. F. Gmelin.

Obtained once in Denbighshire.

Captain W. Buckley informs me that one day in the early seventies his father Sir E. Buckley was on the Bwlch-y-groes, above Dinas Mawddwy, when he saw a strange bird perched on the rocks. Approaching it very cautiously, he managed to get pretty near so as to examine it at close quarters, and found that it was one of the species of Gyr-Falcon. In the *Field*, 1st April, 1876, Mr. John Fairfax Jesse, Llanbedr, Ruthin, records a Greenland Falcon found dead, but quite fresh, by a tenant of his, a few days previously. The bird was brought to him and sent to Henry Shaw, of Shrewsbury, for preservation. It appeared to have been killed by collision with telegraph wires. In a footnote to his *Birds of Shropshire*, Mr. W. E. Beckwith refers to an adult male found at "Llanbadr Mountain, Merionethshire." This is evidently the same bird, but the writer had confused Llanbedr, Ruthin, with Llanbedr, near Harlech. It is also possible that the bird seen by Sir E. Buckley was the same that subsequently met its death at Ruthin. As the Greenland Falcon is only a winter visitor to this country from the far north, the fact that the Ruthin example was obtained towards the end of March seems to indicate that it was on the return migration.

Eyton, writing on the Fauna of North Wales in 1838, mentions a "Gyr-Falcon (*F. islandus*) killed three or four years ago on Lord Cawdor's estate in Wales." Lord Cawdor's estate is in Pembrokeshire, and I cannot learn that in Eyton's day the peer who then bore the title had any property in North Wales. Apparently Eyton mentions this occurrence quite irrelevantly. This is no doubt the same bird of which a full account is given in Mathew's *Birds of Pembrokeshire and its Islands*, p. 52. It is also the one from which the figure of the Gyr-Falcon in *Yarrell* was drawn, and is

now in the British Museum. The Rev. Murray A. Mathew describes it, however, as a Greenland Falcon, and it is so described by Mr. Howard Saunders, who writes under the head of Greenland Falcon, "an immature bird, the subject of the present figure, and now in the British Museum, was shot in Pembrokeshire" (*Illustrated Manual British Birds*, 2nd Ed., p. 341).

114.—PEREGRINE FALCON. *Falco peregrinus*
Tunstall.

HEBOG DRAMOR = Foreign Falcon; HEBOG LAS = Blue Falcon; CUDYLL GLAS = Blue Kestrel; GWALCH GLAS = Blue Hawk.

Resident and breeds in fair numbers amongst the mountains and on precipitous coasts; in the east it occurs chiefly as a passing autumnal migrant in small numbers.

The Rev. Robert Williams in his *History of Aberconwy* (1835) writes:—"This beautiful and noble bird annually breeds in the rocks of Llandudno and Rhiwleden: the eggs are generally four in number and of a reddish colour: the birds are so jealous of one another that only one pair will be found to nest in the same rock. . . . According to the laws of Hywel Dda (*circa* 940 A.D.) the Penhebogydd, or chief falconer, was the fourth in rank among the twenty-four officers of the king's court, taking precedence of the judge of the palace, the head groom and the chief huntsman." Here follows a long passage from the original Welsh enumerating the head falconer's many privileges, amongst them the following:—"He is to have the skin of a stag in October, and in the spring the skin of a hind, to make gloves for carrying his hawks, and to make jesses. He ought to be honoured with three presents the day his hawk kills one of these three birds, a Bittern, a Crane, or a Heron. . . .

He is entitled to the nestlings and also to the nests of the Falcons and Sparrowhawks in the king's demesnes."

The Peregrines from the Orme's Head have long been noted as a fine race. Pennant mentions that in the reign of Queen Elizabeth, Lord Burleigh sent a letter of thanks to an ancestor of the Mostyns for a present of a cast of falcons from that place. John Price in his *Llandudno Guide*, p. 104, states that the Peregrine has never ceased to breed on the Orme's Head since one of the Mostyns presented James I. of England with a cast which is said to have been worth £1000.

Eyton in 1838 wrote of the Peregrine as "not an uncommon bird on the Welsh coast, rearing its young on shelves of rock overhanging the sea: I have never observed nests nearer to one another than two miles: I have several times succeeded in training the young bird for hawking pigeons and Partridges, and found the process much easier than I could have supposed from the accounts given in the older books on the subject; indeed, excepting the treatise by Sir John Seabright, there is not more humbug contained in any description of books than those on hawking."

It will be noticed that Eyton speaks only of the bird's nesting by the sea. It is true that there are more pairs on the precipitous coasts of Carnarvonshire than anywhere else, whilst the Anglesey cliffs accommodate perhaps five or six pairs; but there are certainly more pairs to be found breeding in the rocky cwms amongst the great Welsh mountains than is at all suspected by naturalists who have not visited these wild solitudes. Certain well-known eyries are harried year after year, and yet the birds will not desert the localities. Formerly the eggs were chiefly sought after to sell to collectors, but latterly the raiders have found it more profitable to let the old birds rear the young, which, when ready to fly, they catch and sell for hawking, the usual price being £1 each. This form of raiding tends to reduce the number of Falcons more than the taking of the eggs, because a bird robbed of eggs, if not sitting hard, will

usually lay again and rear a brood, whereas one that is robbed of fledged young will not attempt to breed until the following year.

The eyrie—whether by the sea or inland—is always similar in character; a narrow overhung shelf of rock about half-way down the cliff, or a triangular crevice narrowing inwards, with an earthen floor; the place selected is usually grass-grown, or has some little vegetation about it. Often the entrance is masked by a pinnacle of rock, whilst somewhere near at hand there is always a perching place (easily recognized by its “whitewash”!) where the mate of the sitting bird alights when returning from any expedition, or which it uses as a lookout station in leisure moments; in some instances there are two or more of these perching places.

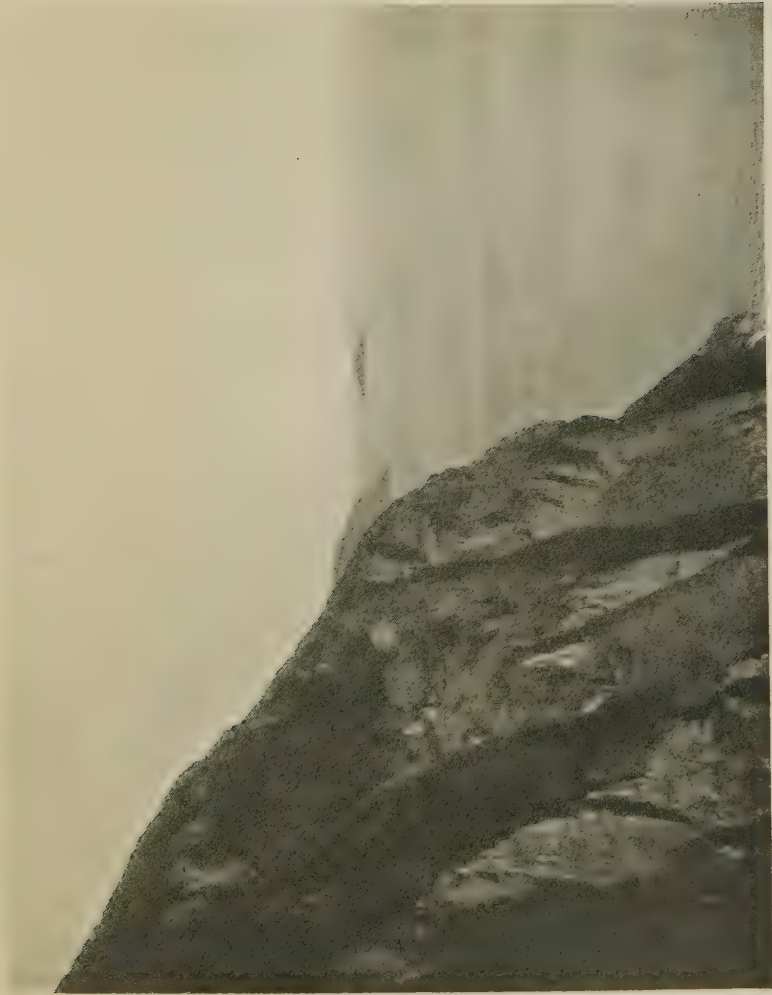
The Peregrine, as is well known, makes no nest, but deposits its eggs on the bare earthen floor of its eyrie. The eggs usually number three or four (occasionally only two), and are laid some time during the month of April. When first laid they are pretty close together, but owing to there being no nest (not even a hollow to keep them together) they get displaced as the bird leaves them, and often widely separated. This probably accounts for the number of addled eggs met with; one or two not being properly covered by the sitting Falcon. Mr. E. Calvert describes an eyrie in which he found two young and two addled eggs, 15th May, 1899, and I know of several similar cases where one or two eggs have been addled, as well as an instance of a Peregrine laying in an eyrie containing an addled egg of the previous year, which it made no attempt to remove.

As regards diet, the Peregrine in Wales seems to feed almost entirely on birds of medium size, with a preference for Pigeons and other species that it would have to fly down. With the exception of the Moorhen, it seldom takes any ground birds, and very seldom any kind of mammal; in fact, I have never come across or heard of an instance of mammalian remains being found at the eyrie. The actual

species taken varies according to the situation of the eyrie—whether inland or by the sea. Doubtless in a Grouse district the Peregrine would take toll of those toothsome birds, but of this I have no actual knowledge. On 13th June, 1893, Mr. E. W. H. Blagg found a young bird nearly ready to fly in a nest so near the top of a sea cliff that he could touch it with his walking stick, and around the eyrie were remains of Kittiwakes, Puffins, Jackdaws and Pigeons. Instances of the Cuckoo falling victim are related under the head of that species. Mr. Cummings has found the remains of Arctic Terns several times at eyries in Anglesey. So fond is the Falcon of pigeons that it will travel many miles to procure them, even when there are hundreds of Puffins and other birds close at hand. It appears habitually to forage at a distance from home, evidently preferring dovecot-pigeons, as “homers” often fall victims, whilst the *red* feathers so frequently found attest that the prey belonged to none of the wild species.

On the Orme’s Head, Dr. Russell has several times witnessed a very interesting performance. When one of the Falcons returns from a foraging expedition carrying a Pigeon in its talons it flies out over the sea, calling to its sitting mate, which thereupon quits the eyrie and also flies out to sea. The first then soars up and drops its prey, and immediately the other dashes down and seizes it before it reaches the water.

To sit on this grand headland and watch the Peregrines and their neighbours is a sheer delight. The upper ledges are occupied by some hundreds of Herring-Gulls, and a score or two of Cormorants, whilst the lower ones are crowded with Guillemots and Razorbills; in one part there is a colony of Puffins, and in another a group of Kittiwakes. As the Falcons always occupy a cranny at a considerable height above the sea, their nearest neighbours are the Herring-Gulls, which seem to be in a perpetual state of nervous excitement lest the Falcons should steal their nestlings. Every now and again one—or sometimes two—of the Gulls will dash at the



NORTH ANGLESEY—The Peregrine's Home.

Photographed by MRS. NEW.]

[To face page 238.]

Falcon, which thereupon gives vent to a harsh chattering note as if of terror, at the same time flying straight out to sea for a quarter of a mile or so, when it doubles back again to its perching place, where it renews the loud chattering for a few moments. This assumed terror is almost comic, for it is quite obvious that the Peregrine does not really fear the attack of the Gulls, being far swifter of wing than they, so that it outdistances them in a very few seconds. Sometimes the Falcon will sit on its perch uttering the chattering note for a minute or two at a time, as though talking to its mate. This is quite distinct from the call note—a loud “hek—hek—hek.”

The behaviour of Peregrines and Gulls varies in individual cases; thus, in Anglesey, Messrs. Coward and Oldham record, * “Again and again the Falcon would stoop, as if in sport, at the Herring-Gulls which were passing along the cliff to their nesting places, sweeping up again just before she reached them. The Gulls always swerved a little from their course when the Falcon was all but on them, uttering a short single frightened scream; a Kestrel, on the other hand, several times hovered over and stooped at the Peregrine, which merely swerved aside and made no attempt to retaliate.”

The Peregrine appears to revel in its power over the other tenants of the air, and will frequently exercise it in mere wanton sport. For example, one cannot imagine that the Falcon would deign to eat such rank flesh as that of the Cormorant, yet it will frequently stoop at one of these birds as if to enjoy the spectacle of its ignominious retreat. The Cormorant, as soon as it espies the Falcon descending, instantly closes its wings and lets itself fall like a stone straight into the sea, where it dives in security, re-appearing at some distance off to glance nervously around in search of its enemy. Needless to add the Falcon never follows up the pursuit.

The terrific pace at which a Peregrine can stoop must be seen and *heard* to be believed. Messrs. Cummings and

* *Zoologist*, 1902, 407.

Newstead were one day sitting at the top of a cliff overlooking a bay where there was an eyrie, when suddenly the falcon shot past from behind within a few yards of their heads, and swept out to sea. The "swishing" noise made by its descent was positively alarming, and it was no doubt intended as a menace.

If not disturbed the Peregrine will use the same eyrie year after year, but if robbed of eggs or young it selects another spot within one hundred yards or so of the first, for, like the Raven, it is very loth to leave its chosen breeding haunt. In one well-known haunt in a rocky headland there are at least a dozen spots that have been occupied as eyries in successive years. Such haunts are never untenanted in the breeding season, for, should accident befall one of the pair, the survivor promptly obtains a new partner; so speedily, too, that incubation is seldom seriously interrupted.

When first hatched, and for some time after, the young are covered with light-coloured down, almost white, which renders them very conspicuous in the eyrie.

As soon as the young are fledged the parents take them out for exercise on the wing. The party of five seen by Mr. Halhed at Llanrwst on 20th August, 1901, consisted probably of two old and three young birds. About the end of August the young are driven away by the parents and thenceforth have to shift for themselves. During the ensuing autumn and winter they often wander great distances, hence the specific name "*Peregrinus*," and the English "Peregrine." The Peregrines met with in the border counties are almost invariably young birds of the year; in fact I have only once met with an adult in Shropshire in the fifteen years I have kept the ornithological records.

Compared with other birds of prey, the Peregrine is a close sitter. The Falcon is always the bolder of the pair when the eyrie is approached, the Tiercel keeping off at some distance or disappearing altogether for a time.

Mr. G. H. Caton Haigh says that about Portmadoc the

Peregrine is often quite common in winter, when it feeds much upon Wigeon, Pigeons, and Jackdaws, the latter being apparently its favourite food. In the same district, in 1904, Mr. H. G. Attlee found a pair of Peregrines breeding near to the spot where there was a Buzzard's nest. Several times the Falcon stooped at one of the Buzzards, but never touched it. Indeed the Buzzard did not seem to fear it at all. Mr. Attlee adds that the Peregrine is very shy of approach, and always keeps high up above anyone on the cliff.

Mr. A. H. Duncalfe relates that at an eyrie in Merioneth, in 1905, the female was shot, whilst sitting, by a keeper. Three days later he witnessed a great battle in the air between three Peregrines; the male was apparently trying to keep off the two Falcons from the place where his dead mate was lying. "It was a grand sight to see these large birds in their rage, whirling about high overhead."

Mr. Askew, keeper of the lighthouse on the Great Orme's Head, has given me some interesting details regarding the behaviour of the pair of Peregrine Falcons which breed there every year. When the Falcon was sitting, the Tiercel provided food for both. The favourite prey was pigeon, but they took his chickens if they could when they had young to feed, so that at that time it was necessary to pen the chickens securely. When the male arrived carrying a pigeon in its talons, it usually alighted on a turfy slope near the eyrie, and immediately proceeded to pluck its prey, keeping up a "horrid" noise all the time. Attracted by the cries, the hen would come flying up and, alighting at a distance of a few yards, would patiently wait until her lord and master had satisfied his hunger, when she would contentedly take what was left. When any large bird was brought for the young, the old one always plucked and broke it up before taking it to the eyrie. The hen bird always took the young out for their first flight, and after they had become strong on the wing she went off with them altogether, leaving her partner solitary. In 1906 this happened about the 20th July. Later on, having sent forth her progeny to seek their own living, the Falcon

returned to her mate, and the two spent the winter in a wandering existence until the following spring, when they always came back to the old place to breed.

The same crevice is seldom or never occupied in two consecutive years, although the spot selected is seldom far from the previous year's eyrie. Every year a pair attempts to breed on the Great Orme, and another on the Little Orme's Head. In 1906, three young were reared at the former, but the eggs of the pair on the latter were taken.

ANGLESEY. Seen occasionally Holyhead (Edwards), Aberffraw (Gosling); used to breed on S. Stack (Marshall); two seen on west coast end of September, 1904; breeds on north coast (Cummings). Saw remains of Pigeons, Jackdaws, Moorhens, and Stock-Doves at eyries in 1903. Young just able to fly seen at eyrie south-east, in 1902, by Miss Lort (Forrest). Eyrie on south-east coast and others near Holyhead (Coward and Oldham). Two young taken from eyrie on Puffin Island May, 1896; remains of two Homing Pigeons (R. Williams Bulkeley, *Field*, 8th August, 1896). Getting very scarce on Menai Straits (Humphreys); 21st May, 1662, "an airy of Falcons at a place we did not set down the name of, near Holyhead" (Ray, *Third Itinerary*). Breeds on south-east coast (Boraston). Obtained Holyhead (Eyre). Bred on the S. Stack (Pennant *Tour*, 1810 ed. III., 77).

CARNARVON. Rare Bangor (Lort and Marshall). One or two pairs breed in Llandudno district and remain through the year; young male shot above Talycfafn 10th October, 1901 (Hutchinson). Sixteen obtained around Bettws-y-coed between 1874 and 1902 (Foster). Pair nested in Snowdon district 1898-9 (E. Calvert in *Field*); two pairs in 1904 (Forrest). Occurs Llanberis (Lort); several Carnarvon (Wynne Williams); pairs breed around Beddgelert (Evan B. Jones). Breeds in Lleyn; occasionally comes to Islands to fetch a Puffin (Aplin). Noted in Lleyn (Cummings and McAlldowie). Found breeding near Penygroes (Thring). Fairly common in winter on coast, rarer inland (Haigh). Eggs in collection taken in Carnarvonshire (Hague, Moore, Rawlings). Seen occasionally on the Dolwyddelan moors (Bucknill). Pair on Bardsey and used to breed on St. Tudwal's; have seen eggs taken there (Aplin).

DENBIGH AND FLINT. Resident near Colwyn Bay (Russell). Specimen at Bodelwyddan, killed on estate; two at the Lyth,

Ellesmere, from Llansilin; formerly nested at Pistyll Rhaiadr, and still occasionally met with there; one seen Prestatyn, very noisy, 28th August, 1904 (Forrest). Seen occasionally on the Berwyns (Kempster) and Corwen; specimen at Rûg (Wynn), a few every year on the Dee Estuary; have specimen (Brooke and V. Wilson) pair on grass there 11th October, 1904; one of them feeding on something (Cummings). St. Asaph, one shot 14th January, 1842 (Moses M.S.); one obtained (Rogers); seen occasionally (Wrigley). Five together, flying playfully about in the air, 20th August, 1901, Llanrwst (Halhed). One shot and others seen Rossett, 1904 (Benden). Seen near Llyn Aled 30th July, 1905 (Oldham). Occasional, Llangollen (Ruddy).

MERIONETH. Frequent Palè; three eyries within a few miles; pair seen by Sir H. B. Robertson, Llandrillo, 21st October, 1901 (Ruddy). Penrhyndeudraeth, three eyries in district (Priestley); has increased in recent years. Seen three on wing together (Haigh). One pair Llanbedr district (Pearse). Bred on Craig Aderyn, Towyn (W. E. S. in *Field*, 20th November, 1880). Breeds near Dinas Mawddwy (Buckley). Barmouth, rare (Roberts); visits in limited numbers (Rawlings). One or two frequently seen about Dovey Estuary (Feilden); obtained one there (Kershaw). Breeds near Barmouth and Bala (Aplin). Pair reared young near Harlech in 1905 (Attlee). Scarce Llwyngwrl (Beddall Smith); obtained Machynlleth and breeds there (Lewis), Towyn (H. Franklin).

MONTGOMERY. Welshpool, heard of one (Butterfield). One in collection Leighton (Naylor). Seen passing Llanllugan occasionally (Lort). Pair nested near Llangunnog, 1901 (Ruddy); met with once, Llanwddyn, recently (C. Wilson).

115.—HOBBY. *Falco subbuteo* Linn.

HEBOG YR HEDYDD = Lark-Falcon.

Summer visitor met with rarely on autumn migration.

Eyton does not record the Hobby in North Wales, and, so far as can be gathered from the meagre list below, the species does not breed in the district, and is only met with

very occasionally in autumn. Mr. Ruddy states that one was caught alive in Colonel Burton's grounds at Bala, on 15th November, 1873—an extraordinarily late date for this species. This, taken together with the fact that it was caught alive, seems to indicate that it was a sick or weakly bird that was unable to migrate at the proper time.

ANGLESEY. Not recorded.

CARNARVON. One shot at Llanwddyn windmill near Conway many years ago (Price, *Llandudno Guide*, p. 104). One in Mr. A. Foster's collection shot near Bettws-y-coed about 1880 (Forrest).

DENBIGH AND FLINT. Occasional north of Dee Estuary (Broekholes). One in Sir Piers Mostyn's collection at Talacre (Dobie's list). One killed Brynkinallt near Chirk, autumn 1881 (Beckwith). Have specimen shot by Mr. Sissons near St. Asaph about 1899 (Rogers). Pair in Mr. Stevens' collection from Wepre, Flint; several in collection at the Lyth, Ellesmere, from Llansilin (Forrest).

MERIONETH. One caught at Bala 15th November, 1873 (Ruddy). Pair in own collection obtained near Towyn (H. Franklin).

MONTGOMERY. Pair shot Llanllugan about 1885 (Lort). Rare Leighton (Bruce).

116.—MERLIN. *Falco æsalon* Tunstall.

BOD GLAS = The Blue Falcon; GWALCH BACH = Little Hawk; GWALCH LLEIAF = Lesser Hawk; CUDYLL GLAS BACH = Little Blue Kestrel (*i.e.*, Little Peregrine); GRUG WALCH = The Heather Hawk.

Partial migrant; breeding on moorlands, and met with in the lowlands on migration; also breeds in Anglesey and Lleyn, chiefly on the coasts.

This dashing little falcon is not at all uncommon in North Wales. It chiefly frequents the long heather-clad ridges commonly called grouse moors, and places its eggs beneath

the shelter of a clump of heather in a simple hollow scraped in the earth, with little, if any, lining. Most of the Welsh Merlins spend the summer on the moors, but after the breeding season they descend to the lowlands, many of them wintering there, whilst others depart southwards. Besides these moorland birds a considerable number are resident in Anglesey.

In Anglesey Mr. S. G. Cummings thinks the Merlin is resident and commoner than anywhere else in North Wales. The nests there are sometimes quite exposed, but always have some lining, such as dried grass or twigs of heather. He has found nests on dried-up inland bogs as well as on the coast, and in 1901 found one on a narrow grassy ledge of a perpendicular sea cliff, some yards from the top, and quite exposed. The scarcity of long heather in that district probably accounts for the Merlin choosing such sites.

When near the sea the breeding place is generally on rough ground just above the cliff, but beneath the shelter of heather or some similar plant. In one instance, in Anglesey, the eggs were placed on a tuft of sea campion growing out of a cliff a few yards below the top, the red eggs surrounded by white blossoms forming an extremely pretty picture.

Messrs. Coward and Oldham observe that in Anglesey the Merlin frequently uses old nests of the Carrion Crow on the cliffs.

Eyton mentions the Merlin as breeding not uncommonly on Cader Idris, where the young are known as Stone Falcons.

Mr. R. D. Williams once tamed a young Merlin taken from the nest at Aberffraw. It would come to him and follow him anywhere, and catch birds thrown into the air for it to eat. Although not pinioned it never attempted to fly away, until it was fairly grown up, when it absented itself sometimes for a day or two, and, gradually increasing the length of its absence, it finally departed altogether.

117.—RED-FOOTED FALCON. *Falco vespertinus* Linn.

Obtained once in Denbighshire.

This rare species has only once been met with in North Wales—a specimen obtained at Wrexham in May, 1868, and recorded in the *Field* of 28th May that year.

118.—KESTREL. *Falco tinnunculus* Linn.

CUDYLL COCH (Curyll, South Wales) = Red Hoverer ;
 *CENLLI GOCH, or GELLAN GOCH (Anglesey and Llanrwst) ;
 CUDYLL Y GWYNT = Windhover.

Partial migrant ; in summer generally distributed and common, especially on precipitous coasts.

The abundance of the Kestrel in North Wales may be judged from the fact that between 1874 and 1902, one thousand nine hundred and eighty-eight were killed on Lord Penrhyn's estate near Bettws-y-coed, and still the species is common there. Of all the *Falconidæ*, this species is by far the most numerous and widely distributed, being found throughout the lowlands and to a moderate altitude on the mountains. On elevated moorlands its place is taken by the Merlin. It is, perhaps, slightly commoner on the coasts than inland, and is particularly numerous in north Anglesey. Mr. Cummings, when on the west coast of Anglesey at the end of September, 1904, noted that there were then few to be seen, so that the species appears to be partially migratory in that district.

The Kestrel is scarce in the Vale of Llangollen, probably

*Or Ceinlly Goch, probably "Ceinllef," from the shrillness of the bird's note (Silvan Evans' *Dictionary*).

because it is shut in by the mountains, so that, if once killed off by keepers, the species would not so easily re-establish itself as in more open country.

Mr. Ruddy writes: "The 'nest' is usually on a ledge of rock, and the eggs placed in a slight hollow on the bare earth, the same spot being resorted to year after year." Cliff nests are always of this type (except when the Kestrel adopts the old nest of a Crow or some other bird), whilst the ledges are more often than not quite open to the sky. In April, 1903, I saw a pair in north Anglesey that were occupying the previous year's nest of a Jackdaw, amongst thick ivy against a cliff just above the beach. Captain E. A. Swainson reports a pair that nested and reared young on a ledge of rock on the Great Orme, within two hundred yards of Llandudno, in 1895. In the Llanllugan district, Mr. Lort notes that the Kestrel habitually utilizes the old nest of a Crow or Magpie, not a rock ledge.

Mr. A. R. Horwood once watched an old Kestrel teaching her young to quarter the fields for mice.

I have noticed that on the coasts, when hunting for prey, the Kestrel almost always works along the turf slopes above the cliffs a few yards within their edges, keeping a course parallel with them instead of crossing over the promontories, and it seldom travels far inland, neither does it go out over the sea to search the cliff-faces like the Peregrine Falcon.

John Price, in his *Llandudno Guide*, mentions that the stomach of one obtained at Bala in 1824 contained a shrew, lizard, and several grasshoppers, daddy-longlegs, beetles, and other insects. When it has young to feed, the Kestrel wanders considerable distances in search of food, and it then often takes small birds and even species as large as the Starling.

The meaning of the Welsh name "Cenlli" is somewhat obscure. A countryman at Llanrwst told me it meant a sudden rushing flood, and, as applied to the Kestrel, referred to the downward rush of the bird when stooping at its prey.

119.—OSPREY. *Pandion haliaëtus* (Linn.).

ERYR Y MOR = Sea Eagle ; ERYR Y DWR = Water Eagle ;
 PYSC ERYR = Fish Eagle ; GWALCH Y WEILGI = Sea Hawk.

Rare visitor in autumn or winter.

There is no evidence that the Osprey has ever bred in North Wales, where it seems never to have been anything but a rare and very occasional visitor.

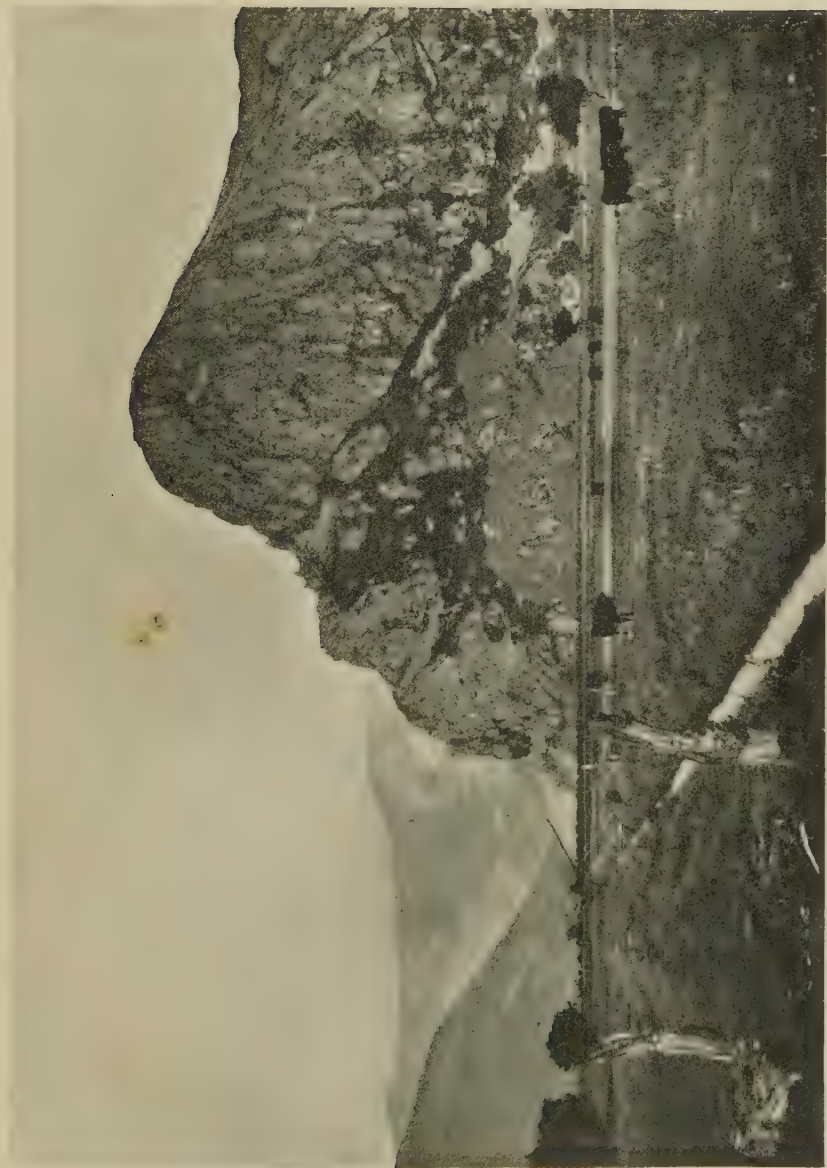
Several old authors mention one shot in Gloddaeth Wood, near Llandudno, in 1828.* Dr. Dobie mentions a specimen in the possession of Mr. Vaughan, of Nannau, near Dolgelley, that was killed on the Berwyns about 1853; also another in Mr. Stivens' collection, shot on Glan-yr-Afon estate, under Moel Famau, about 1878—it had a Trout in its claws. In the *Field* of 8th November, 1884, Mr. H. H. Simpson records an Osprey seen at Penybont Fawr, near Llangunnog, 29th October, 1884—"the bird rose from a small beck about two miles from the River Tanat." Just two years later Sir H. B. Robertson saw an Osprey by the side of the Dee at Llandderfel. Mr. A. B. Priestley tells me that he believes the species has occurred more than once on the Menai Straits.

Mr. W. A. Rogers states that an immature example was, unfortunately, shot in October, 1904, on the River Wheeler at Bodfari, and is now in the possession of Mr. J. P. Lewis, Denbigh.

Mr. W. Glynn Edwards states that some years ago an Osprey was seen at Rhoscolyn, Anglesey. It settled on a field near the cliffs, and afterwards flew out to sea. In the late spring of the same year a friend of Mr. O. V. Aplin saw an Osprey on a rock on the west side of Pen-y-chain.† Mr.

* In *Fauna Græciensis* this is described as "a large Eagle."

† *Zoologist*, 1905, 47.



THE BIRD-ROCK, TOWYN—Historic Breeding place of the Cormorant.

Photographed by J. MACLARDY.]

[To face page 248.]

Aplin further reports that when being driven along the road from Barmouth to Llanbedr, about 7 a.m. on 1st June, 1903, he saw a large bird of prey flying southwards near the sea. It was, unfortunately, some distance away, but from its flight and appearance he had no doubt it was an Osprey. It had long hollow wings, much bent down towards the tips, and proceeded by slow, easy flaps. He was also informed on good authority that a few years earlier an Osprey was seen on the Mawddach between Barmouth and Dolgelley. Mr. Percy Lewis reports one seen hawking over the Dovey Estuary in 1905.

120.—COMMON CORMORANT. *Phalacrocorax carbo*
(Linn.).

MULFRAN = Shy (or Dumb) Crow ; MORFRAN = Sea-Crow ;
LLANC LLANDUDNO = Llandudno Lad.

Resident, common, and breeds on rocky coasts in the west ; feeds also off other parts of the coast, and occasionally far inland.

The Cormorant is common on all parts of the coast, and not infrequently resorts to inland waters to feed, sometimes staying for weeks at a time if the fishing be good.

The breeding places are for the most part on precipitous parts of the coast in the west, and on rocky islands, but occasionally on some inland lake such as Llyn Gwynant or Llyn Peris,* whilst the colony on the Bird Rock near Towyn (which stands about four miles inland) has been known for centuries, and is the only breeding place in western Merioneth. It is currently believed in the district that there are on the Bird Rock some very old and blind Cormorants which are fed by the younger generation ! Cormorants frequently feed at a considerable distance from their breeding place, even when they have young ; those, for instance, on the

* Not in recent years.

Orme's Heads habitually resort to the Conway River when the tide is in, but they also go up to the neighbouring mountain lakes and along the Dee Estuary nearly to Chester. Ray in his *Third Itinerary* mentions the Cormorant as breeding on Puffin Island, but it has ceased to do so now. There is no breeding place further to the east than the Little Orme's Head.

The nest is used by (presumably) the same pair year after year. If a young one dies in the nest they do not remove it, but merely add material to the nest and so bury it on the spot. Many nests are often crowded together in a small area, and the smell is almost overpowering. The nests are usually on open cliff ledges at a considerable height above the sea, but sometimes on islands or stacks of no great height.

The chalky-looking eggs usually number three, but four, five, and even six have been recorded. They are deposited in April or May, but Mr. A. O. Walker has observed that on the Little Orme's Head the Cormorant is double-brooded.* Cormorants have certain favourite perching places, usually detached pinnacles of rock in front of a sea cliff, where they assemble and sit together in groups to rest after the labours of fishing. These places are rendered conspicuous from being "whitewashed" by the birds' droppings.

In June, 1902, I watched a number feeding on eels in Pwllheli Harbour. Some of the eels were quite two feet long, and difficult to manage. They were bitten across in several places by the birds before being swallowed, but even then they caused the most violent and ludicrous contortions of the birds' necks on their downward passage. How many eels each Cormorant ate I am not prepared to say, but they were feeding continuously all the time I watched them—nearly two hours!

Mr. G. H. Caton Haigh states that "considerable numbers, ranging from half-a-dozen in summer to thirty or forty in winter, have for several years roosted in a large Cypress tree

* Dobie's list.

on the lawn about one hundred yards from the house at Aber-Ia; they discontinued doing so in 1901-2."

The nuptial plumage is put on early in the year, but is very short-lived, especially the white pencils on the head and neck, which endure only six or seven weeks. The down on the flanks also vanishes, but persists till late in summer as a white patch—a conspicuous mark by which the Cormorant may easily be distinguished from the Shag when in flight.

121.—SHAG OR GREEN CORMORANT. *Phalacrocorax graculus* (Linn.).

MULFRAN OR MORFRAN GOPOG = Crested Cormorant ;
MULFEAN OR MORFRAN WERDD = Green Cormorant.

Resident and fairly numerous in Carnarvonshire and Anglesey, where it breeds; not common elsewhere, and very rarely seen inland.

Although on St. Tudwal's Island, Cilan Head, and in a few other of its breeding places, the Shag outnumbers the Cormorant, there can be no doubt but that in North Wales, as a whole, the latter is by far the more numerous.

In its choice of a nesting site the Shag shows a decided preference for rock-ledges within wave-washed caves, and if such places are not available, it resorts to ledges on sea-cliffs. Now and again one may find both Shag and Cormorant nesting on the same cliff-face, but the Shags invariably select a ledge that is more or less overhung by projecting masses of rock, whilst the Cormorant usually nests on an open ledge. The eggs resemble those of the Cormorant, being greenish with a chalky crust, but they are smaller and more elongated in shape. The eggs are generally deposited some time during May, but I have seen Shags sitting on unhatched eggs in mid-July, so the bird is apparently double-brooded occasionally.

The Shag appears to be almost exclusively marine in its habits, very rarely resorting to fresh waters to feed, or travelling inland beyond sight of the sea. Indeed, so far as I have been able to gather, it seldom goes very far from home even in the winter, and is more stay-at-home than the majority of sea birds, most of which are great wanderers.

The Shag, during the early part of the year, bears on its head a curious spreading tuft of feathers, which, like the nuptial plumes of the Cormorant, is short-lived, lasting barely three months at the most, and vanishing long before the end of the breeding season.

ANGLESEY. Small breeding colony on Carmel Head and Parc Point (Coward and Oldham) and Penmon Point (Forrest). One or two nests every year on Carmel's Point (Eyton, 1838). About a dozen nests between North and South Stacks, 1907 (Oldham).

CARNARVON. Colony low down on Little Orme (Russell), but this place was deserted in 1902; a few bred there 1903 (Hutchinson); a good number nest in caves under Great Orme's Head; also on St. Tudwal's; unhatched eggs there 13th July, 1903 (Forrest). Breeds north of Nevin (Bucknill and Moore) and on west side of Cilan Head (Savage); probably breeds on east side of Bardsey and at several places in the most westward part of Lleyn (Aplin). Occasionally shot while feeding on small lakes near Bettws-y-coed (Foster).

DENBIGH. Seen very occasionally on Dee Estuary (Brooke). One found Burton Park 5th February, 1901 (Congreve). Several seen flying east of Prestatyn 28th August, 1904 (Forrest). Seen at St. Asaph (Rogers).

MERIONETH. Often seen on west coast, but no breeding station (All observers).

MONTGOMERY. Not recorded.

122.—GANNET. *Sula bassana* (Linn.).

GWYLAN WYDD = Gull-Goose; GANS = Gannet; GWYDD
 LYGAPLAN = Clear-eyed Goose; GWYDD Y WEILGI =
 Ocean-Goose; MULFRAN WEN = White Cormorant;
 MULFRAN LWYD = Grey Cormorant.

Occasional visitor seen over the sea during the herring season; sometimes driven inland by gales.

The Gannet, or Solan Goose as it is sometimes called, does not breed within the confines of North Wales, nor anywhere nearer than Grassholm Island, off Pembrokeshire; still, it is not uncommon in the district during the herring season, closely attending the shoals of fish on which it preys. Its visits, however, are very irregular—sometimes a number may appear in a certain part of the sea-board and remain for several days fishing, whilst a year or two may elapse before any again visit the locality. During the winter months dead Gannets are often washed up on all parts of the coast, and these are usually adults. On the other hand the birds carried inland by gales from time to time are generally immature.

ANGLESEY. Frequently seen passing Aberffraw (Gosling). Seen in hard weather off Holyhead (Clulow and Wrigley). Several seen off north coast, flying west in September, 1899 (Cummings). Adult found dead Bull Bay April, 1903 (Forrest). Two Cymmeran Bay July, 1884, and August, 1892. Adult passing Ynys Moelfre 23rd May, 1903; Rhosneigr May, 1905 (Coward and Oldham). Seen occasionally Menai Straits L.H. (Pells). One found exhausted Holyhead (Eyton).

CARNARVON. Seen by Mr. Coward off Llanbedrog and Nevin, and by Mr. Aplin on the other side of Tremadoc Bay (*Zoologist*, 1902, 107). An adult off Llanbedrog 9th June, 1887 (Coward and Oldham). Occasional Deganwy (Hutchinson), Bangor (Lort) and Llandudno, generally adults singly (Rogers).

Seen off Trevor September, 1895 (Cummings). Found dead near Portmadoc and seen off Llanbedrog; common in the Bay in September (Evan B. Jones). Often seen Criccieth (Horwood). An immature bird fishing in Llanberis Lake 24th June, 1880 (*Zoologist*, 1880, 363).

DENBIGH AND FLINT. Occasionally one on Dee Estuary on a high tide (Brooke and V. Wilson). Large flock Colwyn Bay 3rd May, 1894, and 3rd to 6th May, 1897 (Russell). One caught alive in field, Meliden, in 1900 (Rogers). One obtained Llanyblodwel July, 1881 (Forrest). Recorded at Rhyl, Abergele, Talacre, and on the Dee Estuary (Dobie's list).

MERIONETH. Barmouth occasional (Rawlings), in the herring season (Roberts) and at Towyn (Franklin, Hughes and Edwards), rare there (Kirkby); occasionally in the bay, Aberdovey district (Kershaw and Jackson). Adult bird caught on Dysynni River 25th January, 1877 (*Field*, 3rd February, 1877); another immature 14th November, 1901 (*Field*, 24th November, 1901); another 15th June, 1904, in rough weather; remains of adult on shore Aberdovey early in 1903 (Forrest). Five seen off Dovey Estuary in 1900 (Feilden). Fairly common Portmadoc district in September and occasionally in April, whilst in winter dead birds are washed up (Caton Haigh). Adult seen close in shore at Barmouth 14th May, 1900, and another 9th June, 1903; five adults fishing close in shore Mochras, 8th May, 1901; one found dead near Dyffryn 25th May, 1900, apparently starved; one seen September, 1897, Llwyngwrl (Aplin).

MONTGOMERY. Not recorded.

123.—COMMON HERON. *Ardea cinerea* Linn.

CRËYR GLAS = Blue Heron (literally "Crier"); CRECHYDD = Screamer; CRACH-A-DING-DONG = (From the clanging cry).

Resident; generally distributed throughout the lowlands.

The Common Heron is to be found not only in the lowlands, where it breeds, but on many of the lonely lakes which are so numerous amongst the Welsh mountains. These, however, it only visits for the purpose of feeding. On the Dovey

Estuary Herons are constantly to be seen standing in the shallows as the tide runs down bringing with it the fish and other animals on which they prey. Herons appear to be more numerous on the western estuaries and in Anglesey than elsewhere in Wales, and the heronries are most numerous in these districts. Curiously enough there appears to be no heronry in Montgomeryshire.

Besides visiting mountain lakes and bogs, Herons occasionally cross to small islands in the sea in fine weather, for in the *B.A. Reports on Migration* mention is made of individuals at the Skerries, 8th September, 1882, and 23rd October, 1887; at Bardsey, 28th August, and two on 13th September, 1884; and at St. Tudwal's, 29th November, 1884, 23rd January and 21st August, 1885. On the Menai Straits, too, Herons are constantly seen feeding near the edge of the water, so it is evident that in Wales marine creatures form a considerable portion of their diet. In point of fact, no animal food comes amiss to the Heron. Sir H. B. Robertson was fishing in his coracle on a mountain lake near Bala on 9th May, 1902, when a Heron swooped down on a family of ducklings swimming only a few yards away, and carried one off.

Writing in 1838, Eyton says: "Numbers of nests may be seen on the precipitous rocks in the neighbourhood of the South Stack lighthouse. When the young are nearly fledged, if a noise be made under the nests by striking the oars against the side of the boat, they will often spring out and fall into the sea." Pennant, fifty years earlier, also mentions the Herons nesting on the South Stack, whilst P. Inchbald, in Williams' *Llandudno Guide* (1863), states that "the Heron has been known to build at the South Stack lighthouse, near Holyhead, and at Great Orme's Head," though "their usual nesting places are on old trees." There are no Herons nowadays either on the South Stack or Orme's Head, and the local people of whom I enquired say there have been none for many a long year back. Other nests on cliffs are mentioned below.

Mr. Ruddy records a nest in a curious situation—on the top of a large box-bush about seven feet high, at the western end of Bala Lake, in 1897. The choice of this site was the more remarkable since there was a tall yew-tree close at hand overtopping the box-tree. A somewhat similar incident at Pwllheli, in 1901, is recorded below.

ANGLESEY. Occasionally seen at Porth Wen, Bull Bay, where it formerly nested on low bushes growing in the cliff facing the sea (Cummings). A former Heronry at Bodorgan now deserted (Forrest). Heronry at Craig-y-don, on Menai Straits, about forty birds (Rowland) and from twelve to twenty nests (Dickinson). Another at Plas Tregayan, Llangefni, and Treiorwerth, near Valley—about eight nests in each; also former Heronries, now deserted, at Penrhos, Holyhead, and Baron Hill, Beaumaris (Newstead), S. Stack (Eyton—see above). A single pair nested for years at Dronwy, near Holyhead, till the trees were cut down. A pair nest every year at Penrhos (Edwards). About twenty nests Treiorwerth, 1907 (Oldham).

CARNARVON. Heronries at Broom Hall, Pwllheli (fifteen to twenty nests). Aberdunant, near Tremadoc (fifteen nests), and a small one (six or seven nests) at Gwynfryn (Caton Haigh). Pair nested on low hedge near Pwllheli in 1901 (Forrest). Formerly nested near top of cliff at Craig Llan, near Nevin (Newstead). A pair believed to have nested in the cliffs near Porth Meudwy, where much overgrown with ivy, etc. (Aplin, *Zoologist*, 1903, 213). Heronry formerly in Benarth Wood near Llandudno (Newstead). They have nested along east cliff of Trwyn-y-fuwch (Price, *Llandudno Guide*).

DENBIGH AND FLINT. Herons build in the rookeries at Glanywern, Denbigh (Rogers), and Pennant, near Talycafn (Russell), where there have been as many as twenty-five nests. Heronry at Voelas Hall, Bettws-y-coed (twelve nests), and formerly there was one at Bodrhyddan (Newstead). Heronry formerly at Burton Marsh; twenty nests there 1867 (C. and O., *Birds of Cheshire*).

MERIONETH. Heronries at Rûg (four nests), Hengwrt, Dolgelley (twenty nests), Glyn Hall, Harlech (twelve nests), Talgarth Hall, Machynlleth (seven nests), Peniarth (seven nests), and formerly at Bramas Lodge near Corwen (Newstead). Seen nest in Gorsygedol Wood, Barmouth, and believe used to breed in Cwm Bychan (Attlee). Small Heronry between Cemaes and Cemaes Road (Lewis).

MONTGOMERY. Singlenest at Marrington, Montgomery (Horwood),
Very large Heronry, thirty-five nests, at Halston, Shropshire.
near Welsh border (Forrest).

[LITTLE EGRET. *Ardea garzetta* Linn.]

Recorded once in Anglesey.

Montagu in his *Ornithological Dictionary* writes: "One instance only is on record of the Little Egret being killed in these realms, and that is in Anglesey." This is, apparently, the bird mentioned by Pennant; he received the feathers only (*cf.* Donovan's *British Birds*, IV.).]

124.—SQUACCO HERON. *Ardea ralloides* Scopoli.

Obtained twice—in Denbighshire and Montgomeryshire.

The Rev. Robert Williams in his *History of Aberconwy* (1835) writes: "A specimen of this extremely rare bird was shot by Mr. Robert Williams, of Furnace, 1828, near his house; he gave it to John Price, Esq., then of Bodnod (Bodnant), who liberally presented it to the British Museum, where it is now preserved." It is accurately described in the original record. This ancient specimen is still extant in the British Museum, South Kensington, and is one of the earliest recorded in Britain. The second example obtained in North Wales was shot about 1875, at Garthmyl, near Montgomery, and is in the possession of Mr. Humphreys-Owen of that place. (*Zoologist*, 1891, 471.)

125.—NIGHT-HERON. *Nycticorax griseus* (Linn.).

Obtained once in Anglesey, and reported in Flintshire.

Eyton mentions a specimen obtained "on an estate belonging to Bulkeley Owen, Esq., in Anglesey, in the adult plumage."

This would be prior to 1838. P. Inchbald, in Williams' *Llandudno Guide* (1861), writes: "The Night Heron has been killed in Flintshire and Anglesey, and is inserted on the authority of the keeper at Gloddaeth among the rarer visitants to the marshy grounds near Llandudno; as its name implies it is strictly nocturnal in its habits, secreting itself by day among the reeds and other rank vegetation of morasses." Morris also refers to it as obtained in Flintshire, but no details are given. Dr. Dobie does not mention it in his list; and I have been unable to find any authentic information in confirmation of the above somewhat vague statements.

126.—LITTLE BITTERN. *Ardetta minuta* (Linn.).

Very rare occasional visitor obtained in Anglesey, Flintshire, and Merioneth.

A specimen in the collection of Sir Pyers Mostyn is recorded by Dr. Dobie as having been killed at Talacre about 1836. Mr. Ruddy informs me that two were shot on Arenig Bach in either 1867 or 1868; he had his information direct from the late Dr. Lloyd Williams, of Llandderfel, who shot them himself, and who had a good knowledge of birds. He told Mr. Ruddy about them in 1875, but had not got the specimens then. A note regarding these same birds was contributed to the *Field*, 16th January, 1875, by Mr. R. J. Lloyd Price, of Rhiwlas. Mr. T. Pickin, Manchester, records in the *Field*, 23rd September, 1882, an immature example obtained in Anglesey, 11th September, 1882, and sent to him for preservation.

127.—AMERICAN BITTERN. *Botaurus lentiginosus*
(Montagu).

Obtained once in Anglesey.

Mr. A. B. Priestley records a specimen of this rare bird,

which was shot by his brother in Anglesey many years ago. This is probably the same referred to in *Yarrell*, 4th edition, as having been examined in the flesh by Mr. J. H. Gurney, in December, 1851. It is also mentioned in the *Field* and *Zoologist* for 1866, by Mr. Gurney.

128.—COMMON BITTERN. *Botaurus stellaris* (Linn.).

ADERYN Y BWN = Boom Bird; BWMP Y GORS = Boom of the Marsh (*cf.* "Butter-bump").

Winter visitor, not infrequent, especially in the west.

This bird is very often mentioned in old Welsh poetry, and is alluded to in the laws of Howel Dda. The Welsh names both refer to the booming noise that it makes in the breeding season, and this seems to imply that it formerly nested here. Eyton records two nests in Shropshire in 1830, but does not mention any instance in North Wales, and I have not been able to obtain any actual evidence showing that the species ever bred in the district. At the same time it is extremely probable that it did so, as the bog-lands that it loves are very extensive in North Wales even at the present day. Anglesey is especially suitable on account of the number and extent of its snipe-bogs. Bitterns occur there every winter, as also on the western estuaries, sometimes in numbers. In 1876 no less than ten were obtained on the Dysynni and Dovey Estuaries, and some years earlier Mr. Henry Franklin shot five at Towyn early on a winter morning. In 1899 I was shown a female Bittern in the flesh that had been shot in south Anglesey on 13th August—a very early date for migrants of this species—whilst later on in the season four more were shot in the same neighbourhood. It is just possible that this hen bird had nested in Anglesey, for the plumage was in poor condition and seemed to indicate that it had recently been sitting.

On 4th January, 1901, I had the great pleasure of watching

for a whole afternoon two of these fine birds on one of the meres at Ellesmere—close to the Welsh border. The two points which struck me most were the flight, and attitude when trying to escape detection. When getting on the wing the Bittern stretches its neck forwards and legs backwards, rising heavily with slow-moving pinions like a heron; as soon as it is fairly launched, however, the head and neck are drawn backwards and sunk between the shoulders. The attitude assumed for concealment is remarkably effective; the bird lowers its whole body to the water-level in a heap, at the same time pointing its head and neck in a straight line upwards, not vertically, as often depicted, but at an angle of about forty degrees. When thus posed it looks exactly like a tussock of dead rushes with a stick projecting from it. It will remain in this attitude perfectly rigid for a very long time if it thinks it is being watched.

Although not nearly so frequently met with inland as on the estuaries, the records of Bitterns in all the counties of North Wales are so numerous that it is unnecessary to give them here in detail. In the great majority of instances the birds were observed in January or February.

129.—GLOSSY IBIS. *Plegadis falcinellus* (Linn.).

Several obtained in Anglesey in 1806.

An immature example of the Glossy Ibis, obtained near Beaumaris about the end of September, 1806, was described and figured in Shaw's *Naturalist's Miscellany* (plate 705) as a new species under the name of Brazilian Curlew, by the Rev. Hugh Davies. He did not discover his mistake—into which he was led by the bird being immature and partially decomposed—till four or five additional examples were shortly afterwards obtained out of a flock in Anglesey, some of which fell into his hands (*cf.* Montagu's *Ornithological Dictionary*, and Pennant's *British Zoology*, 1812, vol. 2). It

appears from this that a considerable number of Glossy Ibises visited Anglesey just then, but from that time to this no others have been recorded in any part of North Wales.

130.—SPOONBILL. *Platalea leucorodia* Linn.

Rare autumn or spring visitor to the Dovey Estuary; also recorded once on the Dee Estuary.

Professor Salter records the Spoonbill as a not infrequent visitor in spring or autumn to the Dovey Estuary. On 16th May, 1893, my cousin, the late Mr. Charles Jeffreys, of Glandovey Castle, saw a flock of fourteen settle in the river just below the house, and watched them all the afternoon through a telescope. Eyton mentions a specimen obtained in this same district prior to 1838. Brockholes records "a specimen shot about the year 1859 on the Dee Marsh, near Burton." Dr. Dobie remarks: "Possibly this is the same specimen as that noted by Jos. Leyland as 'shot at Burton, 1864,' and quoted by H. E. Smith in *Proc. Hist. Socy. of Lanc. and Cheshire*, 1865-6."

131.—FLAMINGO. *Phoenicopterus roseus* Pallas.

Obtained once in Merioneth.

In the *Zoologist*, 1899, p. 29, Mr. G. H. Caton Haigh records a specimen of this fine bird which he shot on the Traeth Bach, 21st October, 1898. It had been seen haunting the estuary from 28th September, when it appeared after a two days' gale.

132.—GREY LAG-GOOSE. *Anser cinereus* Meyer.

GWYDD WYLLT = Wild Goose.

Winter migrant of rare and irregular occurrence on the estuaries.

The older naturalists were apt to assume that most of the

"Grey Geese" seen in winter belonged to this species, though it is now known to be actually the rarest of the group. Exact records are most difficult to procure, as specimens are so rarely obtained. Professor Salter states that a flock of nine visited the Dovey Estuary at the end of December, 1892, and Mr. F. T. Feilden tells me that there was a large flock there in 1893, whilst Mr. W. E. Kershaw reports it as occurring in the same locality during hard weather. Captain G. W. Cosens has one shot, with two others, by General White's keeper at Talgarth, north of the Dovey Estuary, during the intense frost of February, 1895, and Mr. Percy Lewis reports two shot there in the winter of 1906-7. Further north it has been seen at Barmouth by Messrs. Rawlings and Roberts. On the north coast Dr. Dobie has no certain record, but according to some notes by Mr. Newstead, in the possession of Mr. Ruddy, it has been shot at Talacre and in the Vale of Clwyd. Mr. Leonard N. Brooke tells me he once shot one on the Dee Estuary, but that the species is *very* rare there, and he regretted afterwards that he had not had the specimen stuffed. The late Mr. Peter Inchbald states that it "would seem to appear occasionally on the Conway River." Messrs. Coward and Oldham mention* one obtained at Burton, on the Dee Estuary, 18th October, 1841.

133.—BEAN-GOOSE. *Anser segetum* (J. F. Gmelin).

GWYDD BONAR = Bean-Goose; SOFLWYDD = Stubble-Goose;
GWYDD FFA = Bean-Goose; GWYDD MIS MEDI = September-Goose.

Winter migrant, not uncommon on the estuaries.

Except on the Dee Estuary, where the Pink-footed species prevails, the Bean-Goose is probably the most frequent of the wild Grey Geese which appear almost every winter in small or great numbers. Wild geese are frequently seen

* *Birds of Cheshire*, 154.

passing over the lighthouses between October and March, but as none are ever obtained it is impossible to determine the species. Two were seen at St. Tudwal's, flying west, at 6.30 a.m. on 25th September, 1887—an early date.

ANGLESEY. Geese, probably of this species, are plentiful at times, Rhosneigr (Long) and occasionally on Menai Straits (Humphreys).

CARNARVON. One shot Afon Wen, 20th October, 1898: local specimen at Broom Hall, Pwllheli (Haigh).

DENBIGH AND FLINT. Obtained on the Dee marshes, in the Vale of Clwyd and at Talacre (Dobie's list). Probably common on Dee Estuary (Congreve); specimens obtained there in collections (Wrigley, Brooke, and V. Wilson).

MERIONETH. Obtained occasionally Llandderfel district; one 22nd December, 1890 (Ruddy). Occasional winter visitor to Dovey Estuary (Salter); one shot there in 1893 by Mr. P. P. Pryce, Lodge Park (Feilden). Barmouth occasionally in severe weather (Roberts); one shot out of large flock in 1881 (Rawlings). Penrhyndeudraeth, the most frequent wild goose in the district, where it appears in small numbers nearly every year (Haigh).

MONTGOMERY. Not recorded.

134.—PINK-FOOTED GOOSE. *Anser brachyrhynchus* Baillon.

GWYDD DROED BINC = Pink-footed Goose.

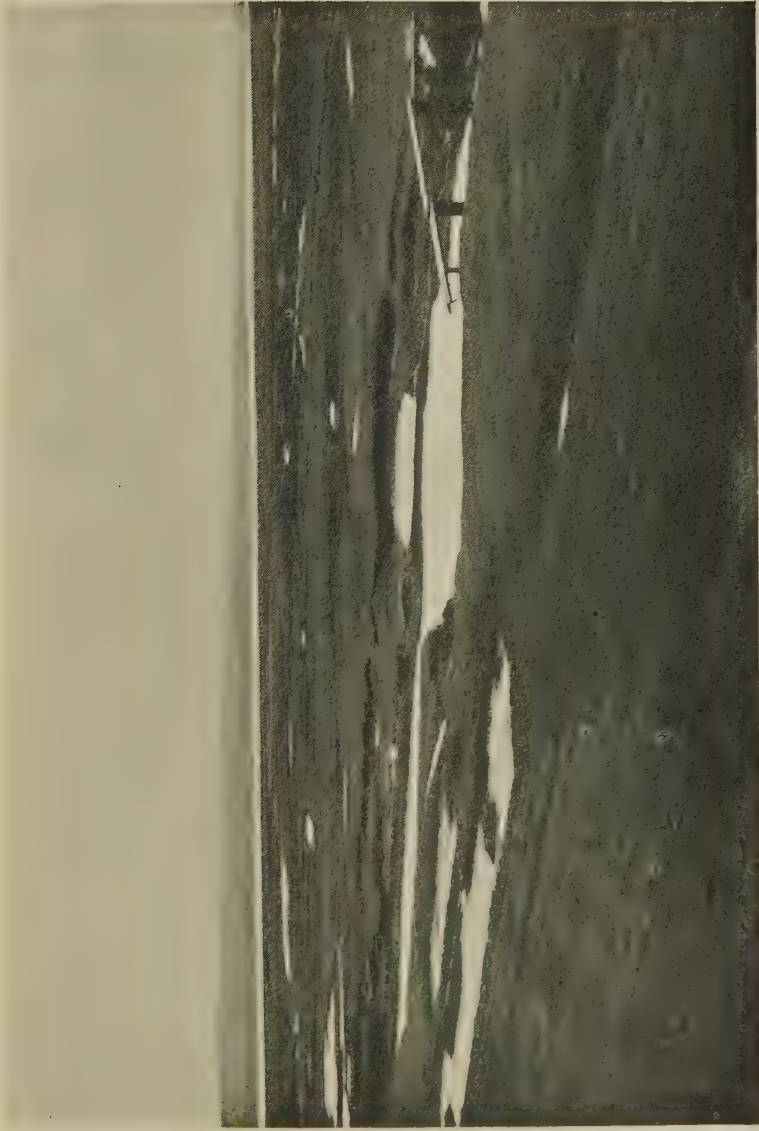
Winter migrant, occurring regularly on the Dee marshes, and occasionally in Merioneth, and elsewhere.

Quite a number of observers report this species as occurring every winter in considerable numbers on the marshes along the Dee Estuary, and it has been estimated that the flock sometimes reaches four hundred or more.

In plumage the Bean-Goose and Pink-footed Goose so nearly resemble one another that it is no easy matter to discriminate between them in the field. True the latter is

smaller than the former, but the difference is not obvious except when both are seen together. The easiest distinction is in the shape of the head and beak. In the Bean-Goose the head and beak are long, and the slope from the top of the head to the tip of the beak is gentle; in the Pink-footed Goose the head and beak are short, and the slope is steep.

Owing to their extreme wariness, these birds are very difficult to approach sufficiently near to watch, but on 11th February, 1905, Mr. Cummings managed to get pretty close to about eighty of them feeding on the seaward side of a high embankment which runs across the Dee marshes to Burton Point. Whilst he was watching these, another gaggle of fifteen to twenty came over from the land-side making straight towards him, and, although they swerved aside on seeing him, they went on and alighted amongst the others. All these were Pink-footed except one White-fronted Goose. Seebohm remarks that the Pink-footed "rarely if ever resort to salt marshes," but Mr. Cummings says "these seldom if ever go off them, certainly not to feed. They often fly down the estuary when disturbed, and sometimes pitch on the water and on the sands, but come up again to their feeding ground. Many may be seen feeding on the fresh springing grass, others squatting with head and neck erect, and others busy preening their feathers. Now and again one will single out a bird and run at it with outstretched neck, and head touching the ground, then others will join in with heads lowered and swinging from side to side. Occasionally two will fly up a yard or so together like fighting cocks, all the while keeping up a low guttural noise. The White-fronted Geese keep aloof from the others, and on 27th January, when there were three, they kept pretty much to themselves, although they were in company with the Pink-footed. The plumage varied considerably in individuals, some being darker than others, especially about the neck. The colour of the legs also varies in tone, some being almost flesh-coloured, others bright pink. In some birds the bills, too, were darker, showing hardly any pink."



THE DEE MARSHES—Winter Haunt of the Pink-footed Goose.

Photographed by V. WILSON.

[To face page 264.]

The earliest date when they have been noted on the Dee marshes by Mr. Cummings was 9th October, 1904. The numbers vary in different years. On 1st December, 1903, he saw at least 400 (presumably Pink-footed) and since then gaggles of 25, 22, 45, 190, 27, 4, 15, and 80, on different days. Probably fresh birds come on the return spring migration. The bulk depart early in March. Mr. Victor Wilson adds that the average date for arrival is 19th November, and that the length of stay depends on the weather; they soon depart if it gets windy and cold. He once saw between 300 and 400 huddled together under the shelter of the Dee Cop.

ANGLESEY. } Occasionally seen on Menai Straits (Humphreys).
CARNARVON. }

DENBIGH AND FLINT. Several obtained out of flocks on the Dee marshes, 1892-3-4, proved to be of this species (Dobie's list). Flocks occur on the Dee Estuary in winter (Brooke, Congreve, Cummings; cf. Coward and Oldham's *Birds of Cheshire*, p. 156). One in collection at the Lyth, Ellesmere, from Llansilin (Forrest).

MERIONETH. One in case at Lodge Park, Aberystwyth, said to have been shot with five others on the Dovey Estuary in the frost at end of December, 1892 (Feilden and Salter). On 5th January, 1901, a male shot out of a flock of nine at Llandrillo; recorded in the *Field* by Mr. Ruddy and examined by me in the flesh next day; now in the collection of Sir H. B. Robertson at Palè (Forrest). November 15th, 1902, small flock in same place, believed to be of same species (Ruddy). A few sometimes visit Dolgelley in hard weather (Bailey). Never met with about Penrhyndeudraeth (Haigh).

MONTGOMERY. One shot Bryntanat, near Llanymynech, 18th February, 1895 (Forrest).

135.—WHITE-FRONTED GOOSE. *Anser albifrons* (Scopoli).

GWYDD DALCEN GWYN = White-forehead Goose.

Winter migrant, not uncommon on the estuaries, obtained in all counties.

The White-fronted Goose, like others of the genus, is no

often obtained, but so far as can be judged from the actual records, it visits the estuaries along both north and west coasts in small numbers almost every winter. Inland, however, it seems to be very rare. Mr. Cummings says that on the Dee Estuary it is of irregular occurrence, and the gunners speak of it as less wild than the Pink-footed; one or two were shot there in 1904-5. It is easily distinguished from the Pink-footed by the aid of good binoculars or a telescope.

ANGLESEY. Mr. R. Ascroft, the Limes, Middleton, records, in the *Field*, shooting one out of a gaggle of nine on Maelog Lake 21st October, 1879. Geese, some of them believed to be White-fronted, plentiful at times, Rhosneigr (Long).

CARNARVON. The only species of Grey Goose observed on the Conway Estuary (Popham). The most numerous of the wild Geese Portmadoc district (Evan B. Jones). Has been obtained at Ystumllyn, near Criccieth (Haigh).

DENBIGH AND FLINT. Occasionally in winter on the Dee marshes (Brockholes). One shot on the Dee Estuary in the winter of 1900 by a farmer called Kemp, who has a farm on Burton Point (Congreve). One shot on River Elwy, St. Asaph, in December, 1899 (Cecil Howard in *Field*, 30th December, 1899). Common at times on Dee Estuary; got one stuffed (Brooke). Seen at times on the Dee marshes in small numbers—see under Pink-footed Goose (Cummings); one shot there 1906 (V. Wilson); seen on Hilbre Island January, 1894 (C. and O., *Birds of Cheshire*).

MERIONETH. Several obtained Lwyngwrlsome years ago (Rawlings). Not so common about Penrhyndeudraeth as the Bean-Goose, but has been obtained on the Traeth Bach and more frequently on Traeth Mawr; shot one in the last-named locality 19th December, 1890—a fine old bird with much black on the underparts, but only weighed $4\frac{1}{2}$ lbs. (Haigh). Shot one Ynysfor in winter 1902-3 (Evan B. Jones). Shot one on marshes above Portmadoc 23rd October, 1878 (W. E. in *Field*). Common on the Dovey Estuary in winter; have killed several (Feilden).

MONTGOMERY. One shot below the Breidden, on the Shropshire border, 23rd March, 1901 (Meredith). April 26th, 1905, seven Geese on Lake Vyrnwy, believed to be this species (C. Wilson).

[SNOW-GOOSE. *Chen hyperboreus* (Pallas).]

A bird of this species seen flying near Aber in 1901, and reported in the *Field* at the time, turned out to be an "escape" from Vaynol Park, where the Snow-Goose was kept on the ornamental waters.]

136.—BRENT GOOSE. *Bernicla brenta* (Pallas).

GWYDD WYLLT DDU = Black Wild Goose.

Occasional winter visitant to the estuaries, chiefly on the west coast.

The Brent Goose is essentially a salt-water bird, very seldom wandering far from the sea. It chiefly frequents the flat shores of estuaries, particularly in the west, but its visitations seem to be irregular, although now and then it appears in considerable flocks.

ANGLESEY. Seen on Llanbabo bog in winter (Clulow). Occasionally on Menai Straits (Humphreys). Seen occasionally in winter, Aberffraw (Gosling) and Holyhead (Edwards).

CARNARVON. Rare winter visitor, Bangor (Lort). Has been shot between Beaumaris and the Great Orme's Head (Martin's *Wanderings in North Wales*, 1864). Large flocks on Conway Estuary almost every winter (Hutchinson). Occurs on coast near Portmadoc (Evan B. Jones).

DENBIGH AND FLINT. Flock recorded on the Dee marshes, where, "on 7th February, 1888, Mr. A. O. Walker saw about 200; one flock flew over him" (Dobie's list). Rarer than the Pink-footed Goose on the Dee Estuary (Congreve). Occasionally on the Dee Estuary; got one stuffed (Brooke). Killed at Talacre (Dobie's list). Occurs every winter, Dee Estuary, but does not stay long (V. Wilson).

MERIONETH. Rare about Penrhyndeudraeth but seen on the Traeth Bach and at Mochras (Haigh). Occurs at Towyn in hard weather (Robinson). Fairly common there in winter (Kirkby). Common in winter on the Dovey Estuary; killed

several (Feilden). One shot there in November, 1884 (*Bygones*, 1884, 138). On 9th January, 1893, observed two parties there, numbering in all about thirty (Salter). One shot Ynysfor years ago (Evan B. Jones). Not uncommon on Dovey below Dinas Mawddwy (Buckley).

MONTGOMERY. Not recorded.

137.—BERNACLE GOOSE. *Bernicla leucopsis* (Bechstein).

ELCYSSEN ; GWYRAN ; GWYDD Y MOR = Sea-Goose.

Winter visitant to the coasts, chiefly on the north ; now very rare.

Several authors mention this species as having formerly been a common winter visitor to the coasts, especially on the north, but of late years its visits seem to have been few and far between. At the present day the Bernacle Goose is certainly rarer than the Brent, and as the latter is not mentioned by most of the older authors it seems possible that they confounded the two species together. The Bernacle is easily distinguished, however, by the white cheeks and forehead ; in the Brent these parts are black. Inland the Bernacle is very rarely met with, and it has not been recorded in Montgomery. So far as I have been able to ascertain, the only recent occasion on which any number of Bernacle Geese have visited North Wales was at the close of 1894, when a small flock appeared on the River Conway. Mr. G. A. Hutchinson saw the birds above the Conway Bridge, and is certain of their identity ; none of the birds were shot, though several guns were after them, and he was one of the party.

ANGLESEY. "Several times received from Holyhead during winter and once observed on the river or creek separating Holyhead Island from Anglesey" (Eyton, 1838). Occurs Holyhead in hard winters (Edwards), also at Rhosneigr (Long), and on the coast near Llandegfan (Rowland).

CARNARVON. Rare : small flock feeding on Conway River in winter, 1894 (Hutchinson). "The last well-authenticated

visit of these birds was to the Afon Ganol in 1812; they came in great numbers and several were caught from the effects of famine" (Williams' *History of Aberconwy*). Bernacle Geese infested the wheat-fields on Llandrillo Bay one severe winter about 1816 (J. Price; quoted in Dobie's list). Probably both these notes refer to the same event* (Forrest). Shot between Beaumaris and the Great Orme's Head (Martin's *Wanderings in North Wales*, 1864).

DENBIGH AND FLINT. Prior to 1862 very common on Dee marshes, now very scarce; sometimes a whole winter passes without any being seen (Brockholes, 1873). Specimens at Burton and Talacre (Dobie's list); one in own collection shot on Dee Estuary (Brooke). "5th November, 1844, saw a Bernacle Goose at Rhyl, which had been caught on the shore by some fishermen; they had broken one wing in capturing it; it seemed pretty tame and was feeding in a yard" (Moses MS.). Some killed about 1860 at Pendwllyn, near Wrexham (Kyrke), Llanrwst, 1830 (*Faunula Grustensis*). One shot near Rossett a few years ago by Mr. Jesse Roberts (Benden).

MERIONETH. There are said to have been some on the Dovey Estuary during the winter 1854-5 (Salter). Seen occasionally in hard weather on the Glaslyn River (Evan B. Jones).

MONTGOMERY. Not recorded.

[CANADA GOOSE. *Bernicla canadensis* (Linn.).

Semi-wild birds are seen occasionally on pools and marshes near the English border, generally in winter, when these, like other geese, are prone to wander. Brockholes mentions two on the Dee marshes in 1864, and Dr. Dobie records two seen on Llyn Helyg. In the *Field* one is recorded shot out of eight at Aber about the middle of June, 1863. The species is resident, and breeds regularly on some of the meres round Ellesmere, just on the border.]

[EGYPTIAN GOOSE. *Chenalopex aegyptiacus* (Brisson).

Escaped birds are occasionally met with. Brockholes men-

* J. Price himself gives the date as 1812 in his *Llandudno Guide*.

tions one shot out of four on the Dee marshes, 8th November, 1870, adding that when first seen they were with some tame geese, but were wary, and had all the appearance of really wild birds. One—possibly out of the same party—is reported in the *Field* as having been shot on the Dee Estuary early in December, 1870. Egyptian geese are kept on Ellesmere mere and elsewhere in a domesticated condition.]

138.—MUTE SWAN. *Cygnus olor* (J. F. Gmelin).

ALARCH DOF = Tame Swan.

Occurs in all counties in a domesticated state.

This handsome species is resident in a domesticated state on many lakes and pools throughout North Wales, whilst it breeds regularly in a perfectly wild state on Whixall Moss, Flintshire, on a portion of the moss which is an impassable morass. It also breeds in a more or less wild state on similar ground near Pwllheli. A few odd birds occasionally appear and stay for a short time on some of the western estuaries; these are usually immature swans, the young birds being prone to wander during the winter months. The Rev. F. C. R. Jourdain observed three haunting the mouth of the Dysynni River as late as May in 1899, and I saw a solitary bird there a year later. Mr. Rawlings noted one at Barmouth, 5th April, 1901.

These wanderers are sometimes mistaken for wild Swans, but the immature Mute Swan may be distinguished from the young Whooper by the bare skin at the base of the beak (where the "berry" afterwards grows) being black—in the Whooper it is yellowish. Despite its name the Mute Swan is not silent; when on the wing it makes a loud clanking noise, but I have never heard it do this when on the water or ground. It hisses when angry. At Vaynol Park several

broods of hybrids between this species and the American Trumpeter Swan have been reared.*

In December, 1906, Mr. Elias Owen, of Colwyn Bay, saw a Fox swimming across a large tarn near Llanellian where were three Swans, one of which attacked the Fox and nearly drowned it; the Fox, however, again turned on the Swan, when all three birds ranged themselves in a line and drove it ashore, evidently seriously hurt as it left traces of blood on the heather.

139.—BEWICK'S SWAN. *Cygnus bewicki* Yarrell.

Winter visitor of uncertain occurrence, chiefly on the estuaries.

This—the smallest and most goose-like of the British Swans—is not uncommon as a winter visitor, chiefly affecting the larger estuaries, especially on the west coast, where it appears in severe weather. Its visits to North Wales, indeed, seem to be influenced chiefly by this last factor. They are irregular but always coincide with frosty weather, the swans then migrating from northern latitudes in quest of warmer climes. This, perhaps, also accounts for their frequenting the western estuaries rather than the northern ones, the former being warmer than the latter. Bewick's Swan very rarely occurs inland in North Wales. It has not been recorded in Carnarvonshire, but probably would visit the flat country near Pwllheli occasionally—the western and southern coasts of that county are not suitable.

ANGLESEY. Rhosneigr not infrequent in winter; one shot there a few years ago (Long). One shot in west Anglesey, November, 1893, by Lieut. Marshall (E. Clulow, *Field*, 25th November, 1893; reported as a Whooper in error).

CARNARVON. A flock of sixteen, all old birds, passed over from the Carnarvonshire side of the Traeth Mawr, almost in gunshot, 3rd March, 1902 (Haigh).

* Harting, *Zoologist*, 1895.

DENBIGH AND FLINT. One shot by Mr. Lawton on the Estuary of the Dee, 14th December, 1871 (Brockholes). Occasional on the Dee Estuary (Brooke). Has occurred once or twice on the meres round Ellesmere; a small flock moving from one mere to another in December, 1899 (Tower).

MERIONETH. One obtained Penrhyndeudraeth 8th February, 1871 (Priestley); a pair observed there on the estuary, 27th November, 1893 (Haigh); seen occasionally in same district (Evan B. Jones). Occurs on Dovey Estuary almost every hard frost; about January, 1893, flock of thirty-two for several days on one of Sir Pryse Pryse's lakes (Salter); small flock on Dovey Estuary 20th to 21st December, 1902, and observed about twenty on 28th February, 1903 (Feilden).

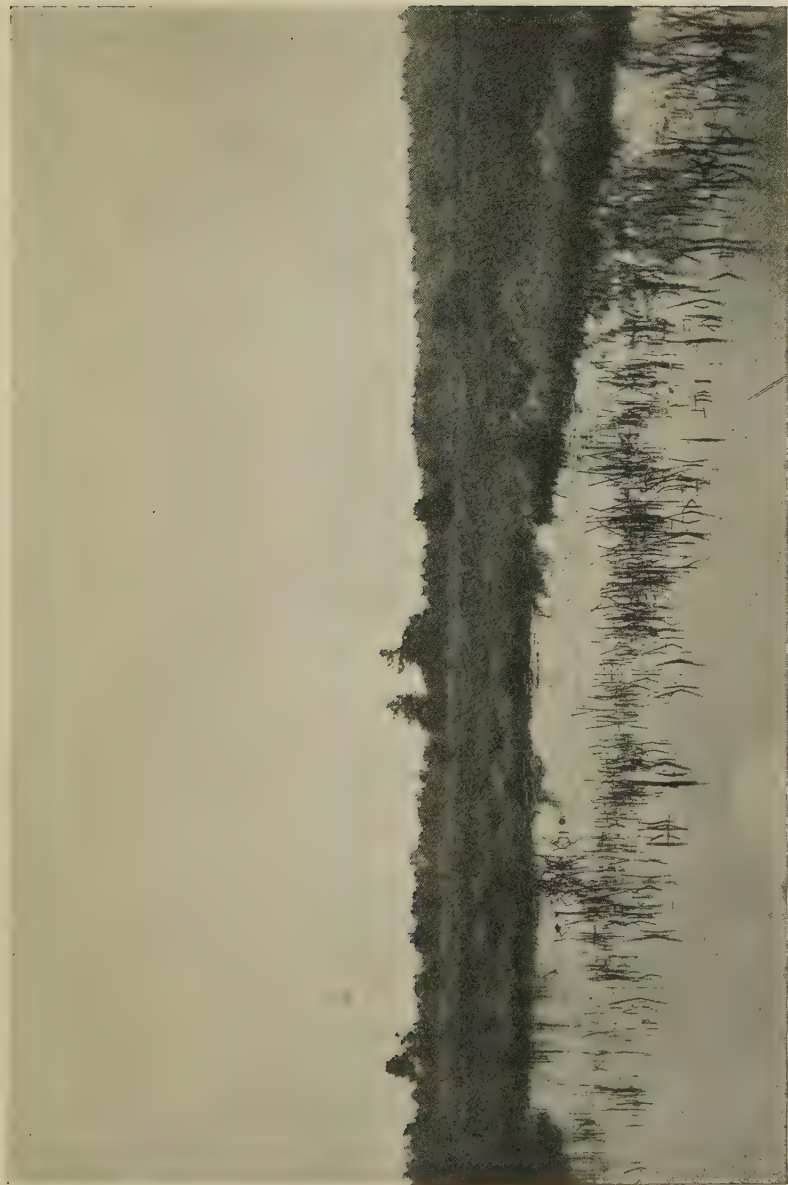
MONTGOMERY. Not recorded.

140.—WHOOOPER SWAN. *Cygnus musicus* Bechstein.

ALARCH GWYLLT = Wild Swan.

Winter visitor, not uncommon on flat coasts and estuaries; rarer on inland waters.

The Whooper is intermediate in size between the larger Mute Swan and the smaller Bewick's Swan. It may be distinguished from the Mute Swan *at any age* by the *absence of black* from the base of the bill, which is long, flat, and slopes very gently downwards from forehead to tip. It is just possible that some of the birds recorded below were not correctly identified. As the young of the Whooper and Mute Swan are very similar, immature Mute Swans may have been taken for Whoopers. Still, the number of records of undoubted authenticity shows that the Whooper is by no means an uncommon winter visitor to the coasts of North Wales, though rarer on the lakes inland, and not recorded in Montgomeryshire. It appears to have been particularly numerous in 1890-1, when flocks were observed in Anglesey, round Penrhyndeudraeth, and on Bala Lake. Mr. R. D. Kirkby reports seeing about twenty on the Dysynni River,



WHIXALL MOSS—Breeding Haunt of Curlew and Mute-Swan.

Photographed by W. E. HARDING.

[To face page 272.]

which, on being disturbed, made off towards the north. A friend of his saw them passing over Barmouth the same day, whilst a similar herd was seen on Bala Lake about the same time.

ANGLESEY. Several obtained in Anglesey at intervals; have handled one killed by a shooter (Priestley). Seen at times, Hoiyhead (Edwards), and Rhosneigr not infrequently; seen on Maelog Lake (Long). Flock of nineteen seen in January, 1891.

CAERNARVON. An immature bird weighing 16 lbs. was shot out of three on the River Conway in November, 1903 (Delamotte), and a flock passed over Deganwy in December, 1904 (Hutchinson). Large flocks passed over Bangor during the winter 1878-9 (Assheton Smith in *Field*, 7th June, 1879). Noted at Afonwen several times (Haigh). Occurs on the River Conway in hard winters (*History of Aberconwy*, 1835) and was more numerous "before the late drainage" (Williams' *Llandudno Guide*, 1861) on Afon Ganol (John Price, *Llandudno Guide*).

DENBIGH AND FLINT. Occasionally in winter on the Dee Estuary: about thirty seen by Mr. A. O. Walker near Bagillt 12th January, 1871, and one shot same winter on the Estuary (Dobie's list). One shot Dee marshes 1900 (Congreve), seen there occasionally (Brooke and V. Wilson). One 15 lbs. weight shot on Clwyd, near St. Asaph, 30th December, 1870 (*Field*, 22nd January, 1871). One shot by Mr. Bate, of Kesterton, Flint, January, 1899 (Wrigley); occasionally on the meres about Ellesmere (Tower) and the mountain lakes on the borders of Denbigh and Merioneth (Ruddy). Frequently seen Llanrwst and "supposed to come from Ireland" (*Faunula Grustensis*, 1830). Often seen Hilbre Island: one occasion herd of sixteen stayed some time; several shot on Burton Marsh (Coward and Oldham, *Birds of Cheshire*, 255).

MERIONETH. Occurs Bala lake in hard winters (Ruddy). About Penrhyndeudraeth flocks appear almost every hard winter; many in 1890-1: five seen 18th February and ten 7th March, 1891 (Haigh). Seen occasionally Ynysfor (Evan B. Jones). Barmouth, several times observed in winter (Rawlings). About a dozen on Bala Lake, 1894-5, for several days (Burton). Rare Towyn (Kirkby). Ten at Llandderfel 28th March, 1895 (Ruddy, *Bygones*, 1895, 67). Killed one out of flock of nineteen on Dovey Estuary (Feilden).

MONTGOMERY. Not recorded.

[BLACK SWAN. *Chenopsis atrata* (Latham).]

Brockholes mentions one caught on the Dee, and in the *Field*, 1879, there are notices of Black Swans being seen off Hilbre Island and near Abergele in April and May of that year. Of course all these were escaped birds—the species is an Australian one.]

141.—COMMON SHELD-DUCK. *Tadorna cornuta*
(S. G. Gmelin).

Hwyaden yr Eithin = Gorse-Duck; Hwyaden Fraith = Spotted Duck; "Ladyfowl" (Aberdovey).

Resident, and common on sandy coasts.

This handsome duck is essentially a littoral species, and is common on sandy coasts and estuaries all round North Wales, particularly in the west. It is rarely met with more than a few miles inland.

In 1900, I found two colonies, each numbering forty to fifty birds, to the south of Aberffraw, Anglesey. One of these was close to the shore at the top of a sandy escarpment, the other a mile or so inland on a grassy slope at an elevation of about 150 feet. In both places the ground was riddled with burrows, many containing nests. Those occupied by the Sheld-ducks could be distinguished by the pale grey down adhering to the sides, and by the tracks made by the bird's feet when entering or leaving the hole. The large creamy eggs usually number eight or nine, and these are laid and the nest completely lined with down some time during May.

On the Barmouth Estuary the Sheld-ducks breed chiefly about Arthog and Penmaenpool. Here the railway runs close to the water, and the ducks are so used to the passing

of the trains that they hardly trouble themselves to move away unless they chance to be *very* near the line at the time. They are conspicuous ornaments to the landscape on these estuaries, and it is a pretty sight on a summer morning to see the old duck emerge from her burrow and lead her downy nestlings to the water, all paddling off together over the dancing ripples. On the Dovey Estuary most of the Sheld-ducks breed on the south side of the water, where the sand-hills are much more extensive than on the north. A few pairs, however, nest on the north side, about a mile to the west of Glandovey Junction. The nest-burrows are in a wood at a considerable height, and on a steep hillside—most inconvenient, one would think, for a bird of such habits. When the duck leads her brood down to the water she has to come down a steep bank, cross a road, go through a hedge, down another bank, across the railway, through a fence, across some rough ground, on to the shore, and at last to the water. About Aberdovey the Sheld-duck is known by the curious name of “Ladyfowl.” Eyton states that about Holyhead the species is called the “Stranger Duck.” Mr. H. G. Attlee has noticed that at the end of the breeding season the Sheld-ducks disappear from Mochras for a short time. The species is almost unknown in Llyn, the coast being too rocky.

Mr. S. G. Cummings notes that in early spring this bird has a distinct guttural “quack,” a noise not alluded to by the best-known writers on ornithology. He and Mr. A. O. Walker have noticed immense flocks of Sheld-ducks, numbering, perhaps, nearly a thousand birds, on the Dee Estuary in January and February. Many of these would certainly be migrants.

ANGLESEY, CARNARVON, DENBIGH AND FLINT, AND MERIONETH.
Common on the coasts and estuaries (all observers).

MONTGOMERY. An occasional one on pool or river at Newtown in winter (Williams) and Leighton (Bruce). One obtained Garthmyl (Fort). An immature bird shot Welshpool, 28th September, 1901, and another 6th January, 1904 (Forrest).

[RUDDY SHELD-DUCK. *Tadorna casarca* (Linn.).

Dr. Dobie records a specimen killed by a dog in a pit at Puddington, on the north shore of the Dee Estuary, in March, 1887. It is now in the Chester Museum. Mr. Tom Hague reports seeing one in April (about 1894), which stayed on the mud-banks in the River Conway for about a week. Both may have been escaped birds.]

142.—MALLARD. *Anas boscas* Linn.

HWYADEN WYLLT = Wild Duck; CORSHWYAD = Marsh-Duck; ADIAD = a Drake; a Mallard.

More or less common resident everywhere; numbers greater in winter.

This is by far the most numerous of the ducks in North Wales. It breeds in suitable localities throughout all the six counties, not only on the lowlands but to a considerable elevation amongst the mountains. In May, 1902, I saw small "flappers" on the marshy ground by a lake on the top of the Berwyns, near Bala, more than 1500 feet above sea level; the Rev. F. C. R. Jourdain also has found ducks breeding on the moors about Barmouth.

Mr. Caton Haigh says that about Portmadoc the Mallard is generally abundant in winter, whilst it also breeds in considerable numbers, the nest being most frequently placed under a gorse bush. About the middle of June, 1887, he records that several large flocks—about a hundred in one flock—appeared on the river at Penrhyndeudraeth. There is a

noticeable increase in numbers everywhere during the winter months, and at that season ducks are frequently noted by the keepers, passing the lighthouses. On 17th October, 1881, there were hundreds of wild ducks in Holyhead Bay. The Mallard is very numerous in Anglesey, especially along the west coast, where hundreds are shot every winter, whilst later in the year small parties are seen about on the shore, feeding on whatever they can pick up there.

In the *History of Aberconwy* (1835) it is stated that Wild Ducks used to breed regularly on the island in the River Conway, until the building of the Suspension Bridge. Occasionally they will nest on a sea cliff; Mr. Cummings has noted an instance near Bull Bay, Anglesey.

The wiles of the duck to lure a dog from the nest or young are well known. In 1900 Dr. W. B. Russell came across a brood of half-grown young near Colwyn Bay; the mother made off as if with broken wing, but one of the ducklings stood still like a statue until, on being discovered by the dog, it ran off, whereupon the mother, which had flown off about eighty yards, came fluttering back. The dog was called off, and all escaped safely.

143.—GADWALL. *Anas strepera* Linn.

Rare winter visitor.

Dr. Dobie records one (or perhaps two) obtained on the Dee Estuary, and another at Talacre; all many years ago. Mr. F. T. Feilden obtained one on the Dovey Estuary, 6th December, 1889, whilst a year later, on 30th December, Mr. Evan B. Jones shot a drake at Ynysfor, near Penrhyndeudraeth, during hard weather. Mr. G. H. Caton Haigh records a female killed in the same place, 14th December, 1901, and yet another, 20th December, 1904.

144.—SHOVELER. *Spatula clypeata* (Linn.).

HWYADEN LYDANBIG = Broad-beaked Duck.

Not uncommon in winter on flat coasts, rarer inland ; breeds in Anglesey, and has once nested in Merioneth.

The Shoveler occurs in North Wales chiefly as a winter visitor, never in any numbers, but still not at all uncommonly, whilst in the west it appears to be slightly on the increase. It affects the neighbourhood of the sea and the larger estuaries, though inland it is rarely met with.

As a breeding species it is established in Anglesey in one place where it is protected from molestation, and it probably nests on other pools in the same county. Mr. W. Glynn Edwards states that for some years back there has been a flourishing colony of Shovelers by the lake at Presaddfed (near Holyhead) belonging to Lord Stanley of Alderley, and that it breeds there in some numbers, being strictly protected. Colonel Thomas Long told me that at the commencement of each shooting season the bag at Penrhyn Lake, near Valley, nearly always included one or two Shovelers, some of them young birds. He introduced to me David Owen, a most intelligent man who works on the railway thereabouts, and who knows by sight, though not by name, all the local birds and beasts. Owen described to me a nest and eggs which he found by Penrhyn Lake in 1900, and from his description of the bird, which he flushed from the nest, I have no doubt that it was a Shoveler. It will be seen also by the notes below that Messrs. Coward and Oldham saw a pair in June on Malldraeth Marsh* and two drakes in May.† Mr. C. Oldham tells me that he has seen Shovelers on a good many occasions in the neighbourhood of Rhosneigr and Valley, adding that the bird breeds

* *Zoologist*, 1902, 413.

† *Id.*, 1904, 28.

not infrequently in that part of Anglesey, and is by no means confined to the neighbourhood of Presaddfed.

The only other county in which the Shoveler has bred is Merioneth, and here, strange to say, the selected site was an elevated one—Llyn Mynyddlod, where the Wigeon nested. Here, in 1896, Mr. Ruddy saw a pair on 21st and 29th April, and on till the end of May. The birds were seen repeatedly during the ensuing summer, and on the 8th August a young one was shot and examined by Mr. Ruddy. Thus, although the nest was not actually found, there is practically no doubt that the birds bred there and reared a brood.

ANGLESEY. Not uncommon Holyhead; breeds by the lake at Presaddfed, belonging to Lord Stanley of Alderley, in some numbers (Edwards). Believed to nest in Anglesey; used to see these birds on a certain marsh in Anglesey during April, but did not find a nest (Priestley). Shot on bog at Ty Croes in winter (Marshall). A few shot every year on Penrhyn lakes, and amongst them several young birds almost certainly reared there (Long). Nest and eggs found there in 1900 by David Owen (Forrest). One in own collection shot at Ty Croes (Kershaw). Occasional Menai Straits (Humphreys). Pair seen on Malldraeth Marsh in June, 1902, and two Drakes at Gaerwen 24th May, 1903; numbers evidently breed in the west (Coward and Oldham): three pairs on Llyn Hafodol and two pairs on Llyn Geirian end of March, 1905 (Cummings).

CARNARVON. Pair shot near Pwllheli in January, 1903, now in collection of C. Lloyd Edwards, Nanhoron; species met with previously (Forrest). A good number every year in Portmadoc district, especially on Ystymlyn Pool (Evan B. Jones), has been killed there and at Penychain Point, near Afonwen, in 1900-1 (Haigh).

DENBIGH AND FLINT. Shot by Mr. J. B. Watts on the Clwyd, St. Asaph (Rogers and Wrigley). Scarce on the border about Ellesmere (Tower). Occasionally in September on the Dee Estuary (Brooke); regular winter visitor to the Dee Estuary (Coward in *Field*, 7th January, 1905); a flock occasionally in winter on ponds, as well as on the Dee marshes (Brockholes, 1873), obtained at Talacre (Dobie's list): three pairs on the Dee marshes 1st April, 1905 (Cummings). Shot at Hoylake (Byerley, *Fauna of Liverpool*). Seen regularly on enclosed (private) part of Burton marshes, many obtained (V. Wilson).

MERIONETH. Rare Palè, nested on Llyn Mynyddlod, 1896 (Ruddy). Not uncommon winter visitor to the Dovey Estuary (Feilden, Lewis, and Salter), and has been killed on Dysynni River, but is rare at Towyn (Kirkby); obtained there (H. Franklin). Occurs sparingly Barmouth (Rawlings). Appears to have become more numerous during the last seven or eight years; obtained on Traeth Mawr and Traeth Bach (Haigh).

MONTGOMERY. Occurs rarely near Carno (Davies).

145.—PINTAIL. *Dafila acuta* (Linn.).

HWYADEN LOSTFAIN = Narrow-tailed Duck.

Winter visitor, not uncommon on flat coasts; rare inland.

Eyton described the Pintail in 1838 as "not uncommon on the Welsh coast during winter," and this description is equally true now, with the reservation that, like the Wigeon, it affects only the flat parts of the coasts and estuaries. It never appears in large flocks like certain other ducks, and is most often met with in twos and threes between October and March. On March 7th, 1905, Mr. S. G. Cummings saw eight Pintails in pairs on the Dee Estuary, and was able to watch one pair at closer quarters than is generally possible. He noted that the tail of the Drake was depressed when its head and breast were submerged in the act of feeding under water.

ANGLESEY. Not infrequent in winter on the flats about Aberffraw, (Gosling). Rather scarce round Holyhead (Edwards). Occasional on Menai Straits (Humphreys) and Rhosneigr (Long). Not uncommon on the coast in winter (Eyton, 1838).

CARNARVON. Rare winter visitor Deganwy (Hague), but fishermen say frequent at mouth of the Conway in winter (Moore). Occasionally at Pwllheli (Haigh). Shot between Beaumaris and Great Orme (Martin's *Wanderings in Wales*, 1864).

DENBIGH AND FLINT. Frequent in winter on the Dee Estuary; many in January, 1891; obtained at Talacre (Dobie's list). Occasionally shot on Dee Estuary (Congreve), where it is

sometimes plentiful in winter (Brooke, Wilson and Wrigley). Four pairs on Dee Estuary 7th March, 1905 (Cummings). Shot at Hoylake (Byerley, *Fauna of Liverpool*).

MERIONETH. A few seen every winter Ynysfor (Evan B. Jones) and Penrhyndeudraeth (Haigh). Commoner than the Shoveler at Barmouth (Rawlings). Rare Towyn but obtained on Dysynni River (Kirkby). Occasional on Dovey Estuary October to March (Salter), a few there most seasons (Feilden).

MONTGOMERY. Scarce winter visitor Newtown (Williams) and Welshpool (Bruce).

146.—TEAL. *Nettion crecca* (Linn.).

TELSAN = Teal; **CORHWYADEN** = Dwarf-Duck; **CRACH-HWYADEN** = Small or Petty Duck.

Common in winter, and a few breed in all six counties.

Eyton describes the Teal as common, and adds that it "occasionally breeds on the Welsh lakes." Throughout North Wales it is more or less common during the winter months, not only in the lowlands, but on the lone hill-tarns which are so numerous amongst the mountains. Even in choosing a nesting site the Teal does not confine itself to the lowlands, but breeds on moorland bogs and tarns at various elevations up to about 1500 feet.

Inchbald, in Williams' *Llandudno Guide*, writes: "Teal used to breed on the Afon Ganol before the drainage, and that river was the resort of many hundreds of these and other kinds of the duck tribe." The Afon Ganol will not be found marked on any modern map. It is now dry land, but was formerly a swamp extending from Conway past Pabo to the sea-shore at Rhos. Earlier still it was doubtless the estuary of the River Conway, which then entered the sea to the east of the Little Orme's Head, instead of to the west of Deganwy. After the river changed its course, the swamp which was left behind in its old bed must have been a grand

place for water-fowl in the winter time. John Price makes frequent reference to it and relates the adventures which befel him and his friends when out shooting over it.

There is ample evidence that the Teal nests, though not numerous, in all the counties of North Wales, whilst in winter its numbers are greatly increased by immigrants from the north.

This duck is essentially a freshwater species, though occasionally met with on estuaries. On 21st March, 1905, Mr. S. G. Cummings saw about ten on a salt-water pool amongst the rocks at Carmel Head, Anglesey; they had been feeding on a kind of green seaweed.

147.—GARGANEY. *Querquedula circia* (Linn.).

Rare visitor to flat country near or on the coasts.

Brockholes mentions having seen a Garganey which was shot some years before 1873 on the Estuary of the Dee, and there is one in the collection of Mr. Kemp at Burton, which he shot in that district. Dr. Dobie suggests that both these notes may refer to the same bird. Mr. F. L. Congreve has another, also shot on the Dee Estuary about 1898, whilst Mr. V. Wilson states that he has one obtained there, 3rd January, 1901, and Mr. Brooke tells me he once shot but lost a duck which he believes was a Garganey on the same estuary. Mr. A. B. Priestley has a female obtained on a pool in Anglesey a good many years ago. It was struck down by a Peregrine whilst he was flapper shooting in August, about 1876-8. Shaw of Shrewsbury preserved it. Mr. Priestley adds that he saw another subsequently whilst otter-hunting in August. Mr. E. Gosling reports it as having been seen on Llyn Coron, Anglesey, where one was shot by Sir G. Meyrick's keeper and shown to him. This also was in the seventies. Mr. Caton Haigh noticed a duck on the Traeth Mawr, 2nd May, 1898, which he is almost sure was a Garganey. Lastly, Mr.

T. A. Coward saw a fine male Garganey in company with other ducks on a lake in west Anglesey, 15th April, 1905.*

148.—WIGEON. *Mareca penelope* (Linn.).

CHWIWELL = Lively one (?), or perhaps from the male call-note, "Whee-you."

Winter migrant, abundant on flat coasts, especially in the west; rarer inland; has bred in Merioneth.

As in other parts of the kingdom, the Wigeon in North Wales chiefly affects flats and salt marshes along the coast, and in such places sometimes appears in vast flocks during the winter months. It also visits many inland waters, but seldom in large numbers. It usually begins to arrive at the end of September and stays till April, and, on the west coast, often into May.

The fact that the Wigeon has bred in North Wales is of great interest, since it has very rarely been found nesting in any part of England. Such an event, therefore, needs to be proved beyond dispute. Mr. Ruddy tells me that he observed a pair of Wigeon in the spring of 1898 on Llyn Mynyddlod, a mountain lake high up on the Palè estate near Bala, and that they nested on the marshy ground close to the edge of the water. He is quite sure of the facts since he kept a watch on the birds throughout the season. The Wigeon, carefully protected from molestation, and secure in their mountain retreat, safely reared their brood of ducklings. One of these was shot after it was fully fledged, and examined by Mr. Ruddy, who assures me there is no doubt whatever as to its being a Wigeon. Two pairs were on the same pool, 19th-30th April, 1902, whilst another young Wigeon was shot there on 30th September, 1904.

* *Zoologist*, 1905, 386.

Brockholes' statement that the Wigeon nested at Puddington in 1863 is now discredited.*

Inland, the Wigeon occurs irregularly during the winter months in all parts of the district, but, of course, never in such numbers as on the coast.

149.—COMMON POCHARD. *Fuligula ferina* (Linn.).

HWYADEN BENGOGH = Red-headed Duck.

Winter visitor, fairly common, but irregular in occurrence and distribution ; believed to have nested in Anglesey.

Eyton, writing in 1838, described the Pochard as being found with the Scaup always on the sea in winter. He makes no mention of its occurrence on inland lakes, but on some of these—Bala Lake, for example—it sometimes appears in considerable numbers.

Mr. Wrigley has seen large numbers on Bala Lake ; there was a small flock there in 1900 ; on 4th April Colonel Burton noted twenty ; and three days later Mr. Ruddy saw ten in company with twenty Coots, all of them very active in diving and swimming (after a time the Pochards separated from the Coots and flew out towards the middle of the lake). Sixteen days later Mr. Ruddy and I saw a male on a mountain lake near Bala, and it seemed so perfectly at home that we thought it might have a mate and be breeding. It disappeared, however, soon afterwards. On 20th October the same year, a Pochard was shot out of a pair not far off. The following year a pair was seen several times on the same pool up to 21st May.

On 20th April, 1903, Mr. Ruddy saw one on the Dee at Llandderfel : "It was working its way along the river towards Corwen, which is the usual route of waterfowl when departing in the spring." On 30th May, 1904, Mr. J. M.

* Coward and Oldham, *Birds of Cheshire*, 167.



TAL-Y-LLYN—Winter Resort of the Pochard.

Photographed by T. J. DAVIES.

[*To face page 284.*]

Boraston put up a male from the reed-beds in Pen Park Pool, south-east Anglesey: "It continued to fly round this spot as a centre in great circles at an enormous speed for something like half-an-hour. It was well under view with the field-glasses, and in bright sun. Not till the watchers withdrew did it come down; then it forged its way through the water at a remarkably high speed to the spot from which it had risen, giving them a clear view before it reached the reeds. No mate was seen, and the spot was on the inner fringe of weeds and inaccessible by wading, so no nest was found. The behaviour of the bird seemed incomprehensible if it were only a passing migrant."*

ANGLESEY. Common autumn to spring about Holyhead (Clulow and Edwards) and in good numbers on the sea in winter (Marshall), also on lakes in west Anglesey (Gosling), Rhosneigr (Long), and on Menai Straits (Humphreys). One on Llyn Maelog end of September, 1904, and two immature birds on Llyn Geirian 25th March, 1905 (Cummings); a single bird on same 10th October, 1901 (Oldham). Probably breeds in west; several drakes in June, 1904 (Coward and Oldham), (Boraston—see above).

CARNARVON. Common some winters about Bangor (Lort). Scarce Deganwy (Hutchinson). Seen in Lleyllyn January, 1903 (Aplin). Llyn Dinas, near Beddgelert, is a favourite resort; about forty there all through winter 1904-5 (Haigh). Occasional Llandudno (J. Price, *Llandudno Guide*).

DENBIGH AND FLINT. Recorded on the Dee Estuary and at Talacre and Corwen (Dobie's list). Rare Corwen (Wynn). Occasional on the Dee Estuary; obtained there (Brooke and V. Wilson). Several shot about St. Asaph (Rogers). Common in winter on the meres round Ellesmere (Tower). Reported by keeper as breeding, Llanarmon D.C. (Meares). Shot Hoylake on flooded meadows (Byerley, *Fauna of Liverpool*).

MERIONETH. Palè, in flocks sometimes; one on Dee 20th April, 1903 (Ruddy); a few every winter on Dovey Estuary (Feilden); occurs there irregularly and in small numbers (Salter and Lewis). Winter visitor Barmouth (Rawlings); common there sometimes (Roberts). Fairly common Towyn and numerous in winter on Tal-y-llyn Lake (Kirkby).

* Cf. *Birds by Land and Sea*, p. 227.

Common on Bala Lake (Buckley); have seen large numbers there (Wrigley). Rarely seen Penrhyndeudraeth and almost always old males (Haigh); occurs every winter Ynysfor (Evan B. Jones). Pair on Cwm Bychan Lake for two weeks in spring, 1902 (Moore).

MONTGOMERY. Rare winter visitor Newtown (Williams), Forden (Vize), Guilsfield (Mytton). Female shot on Severn Welshpool, January, 1907 (Naylor).

150.—FERRUGINOUS DUCK. *Fuligula nyroca*
(Güldenstädt).

Rare visitor, recorded twice in Montgomeryshire.

The Rev. W. R. Jones informs me that he shot a female example of this species on a pond near Churchstoke in the winter of 1889-90. It was cooked for the table but proved very unpalatable. On 2nd April, 1906, one was shot out of a party of seven at Machynlleth by Mr. Percy Lewis. When first seen they were eating green weed, to obtain which they had to dive two or three feet down. On being shot at they flew off towards the sea, but afterwards turned towards the station. Three were seen next day on a small pool near the Dovey, and one on the same pool a week later. The specimen shot is in Mr. Lewis' possession.

151.—TUFTED DUCK. *Fuligula cristata* (Leach).

HWYADEN GOPYNOG and HWYADEN GOPOG = Tufted Duck.

Winter visitor, not very common anywhere in the district; breeds in Anglesey, and possibly in Merioneth.

The Tufted Duck seems very capricious in its choice of winter quarters, and still more so in regard to its breeding places. Eyton described it as "found on the coast during winter," which is somewhat vague. Just outside our boundary, in Shropshire, this species occurs in hundreds on

the Ellesmere meres during winter, whilst at Sandford, near Whitechurch, within five miles of the Flintshire border, several pairs nest every year. It seems probable, however, that the meagre records here given do not really represent the status of the species in the district, and that it has escaped notice in many localities where it actually occurs. Still there can be no doubt that it is by no means plentiful in any part of North Wales, and it is certainly less numerous there in winter than in the neighbouring parts of England. The Tufted Duck has been noted in Merioneth during summer, but the only North Wales county in which it is known to breed is Anglesey. Here Mr. T. A. Coward saw a brood of young in the down on 1st August, 1892, whilst old birds have been repeatedly observed on some of the pools during the breeding season.

ANGLESEY. Occasional in winter Holyhead (Clulow) and on pools near Rhosneigr (Long and others.) Drake on Maelog Lake end of September, 1904 (Cummings). One in breeding plumage obtained in Anglesey 1st August, 1892 (Coward, *Zoologist*, 1892, 358). Breeds in west; brood of young seen on Llyn Maelog, 1st August, 1892; old birds on pools in the west, June, 1891, May and June, 1892, June, 1904 (Coward and Oldham, *Zoologist*, 1905, 229), April and May, 1905 (*id.*, 1905, 423).

CAERNARVON. Common some years about Bangor, and every winter on Llanberis lakes (Lort). Seen in Lleyn January, 1903 (Aplin).

DENBIGH AND FLINT. Occasional on the Dee Estuary (Brockholes). Obtained at Bagillt and Talacre; noted near Corwen (Dobie's list). Frequent in winter about Mold and St. Asaph (Wrigley). Occasional on the Dee Estuary (V. Wilson and Brooke). Numerous in winter on the meres round Ellesmere (Forrest). Seen summer, Llanarmon D.C., probably breeds (Meares).

MERIONETH. Palè, first noted in 1876, a solitary female; frequent now in winter (Ruddy). Not uncommon on Bala Lake in winter (Buckley). Drake and two ducks there 23rd and 29th May, and 1st June, 1903 (Aplin, *Zoologist*, 1903, 316); one seen Llandderfel 1st September, 1903—possibly one of the same birds (Ruddy). A few on Dovey Estuary every winter (Feilden) in flocks of six or eight (Salter). Not

recorded at Barmouth (Rawlings), but visits the estuaries of Traeth Bach and Traeth Mawr in small numbers only and at long intervals (Haigh). Three or four pairs on Bala Lake 13th to 24th May, 1904, and 26th May to 4th June, 1906; on 29th May, 1906, there were three drakes and one duck at the Llanuwchllyn end, apparently indicating that two ducks were sitting (Riviere). Obtained near Machynlleth (Lewis).

MONTGOMERY. Scarce Newtown (Williams). Male shot on Severn, Welshpool, in January, 1907 (Naylor).

152.—SCAUP-DUCK. *Fuligula marila* (Linn.).

HWYADEN LYGAD ARIAN = Silver-eyed Duck ; HWYADEN BENDDU = Black-headed Duck.

Winter visitor, not uncommon on flat coasts ; rare on fresh water.

Eyton described the Scaup as "not nearly so common as the other *Fuligulæ*, and never killed inland." Whether this was true in 1838 we have no means of ascertaining, but at the present day the statement would require modification. On salt water the Scaup is not at all uncommon, whilst it certainly does occur on fresh water, though only very occasionally. During recent years a good many have visited Shropshire, and the one mentioned below, under the head of Montgomeryshire, was with others just on the Shropshire border.

That the Scaup should breed in North Wales would be a very extraordinary event, but in 1902 there seemed to be some chance of this taking place, for Mr. Chas. G. Beale wrote to inform me that on 19th May he had seen a pair on Llyn Cwm Mynach, near Dolgelley. He watched them for several hours to make sure of the species, and a look-out was kept for the following fortnight in the hope that they might nest. The drake was never seen again, however, though the duck was noted on the 20th and again on the 24th.

ANGLESEY. Holyhead often seen at sea in winter and occasionally on inland lakes in rough weather (Clulow). Rare on Menai Straits (Humphreys).

CARNARVON. Bangor, occasional in winter (Lort). Scarce Deganwy (Hutchinson). Not uncommon on coast about Portmadoc (Evan B. Jones). Seen on Llyn Dinas, near Beddgelert (Haigh).

DENBIGH AND FLINT. Occasionally shot in the estuary of the Dee (Brockholes, 1873). Several obtained there and at mouth of Conway River; noted also at Talacre near Corwen (Dobie's list). Common in winter on the Dee Estuary; one stuffed (Brooke and V. Wilson). Numerous in winter off Point of Air (Wrigley). During severe frost 31st January, 1895, walked to within twenty yards of adult male, Colwyn Bay (Russell).

MERIONETH. Pretty common in winter, Barmouth (Rawlings), but further north by no means common; seen at Mochras, on the Traeth Bach, and Glaslyn River (Haigh). Several on Arthro Estuary, Llanbedr, in early February, 1902 (Moore). Seen in hard weather Dolgelley (Bailey). Pair on Llyn Cwm Mynach end of May, 1902—see above (Beale); a few every winter on Dovey Estuary (Feilden); occurs there chiefly in small flocks in October, though single birds are met with later (Salter); obtained Towyn (H. Franklin).

MONTGOMERY. A nearly adult male in Shrewsbury Museum was shot 1st January, 1895, out of a small flock on the Vyrnwy, where it joins the Severn (Forrest).

153.—GOLDEN-EYE. *Clangula glaucion* (Linn.).

HWYADEN LYGAD AUR = Golden-eyed Duck.

Winter visitor, common on the coast, especially in the west; fair common on inland waters.

Eyton describes the Golden-eye as common on the coast and occasionally found inland in winter, and this applies well to the present day. It seems to be generally more numerous on the west than on the north coast, whilst inland its visits are principally made to the larger pools and rivers. Adult males are curiously rare; Mr. Caton Haigh states that only about one occurs in thirty, and on the Dovey Estuary Mr. F. T. Feilden has only once met with an example.

ANGLESEY. Fairly frequent in winter on west coast (all observers).
Seen one adult male (Forrest).

CARNARVON. Occasional Bangor (Lort). Scarce Deganwy (Hutchinson), Carnarvon (Wynne Williams). Occurs in winter on Llanberis Lakes (Lort). Shot from time to time between Menai Straits and Orme's Head (Martin's *Wanderings in Wales*, 1864). Seen in Lleyl January, 1903 (Aplin). Common about Portmadoc (Evan B. Jones); occasional Llandudno (J. Price, *Llandudno Guide*).

DENBIGH AND FLINT. Several noted on the Dee Estuary, also at Talacre and near Corwen (Dobie's list). Occasionally shot on Dee Estuary (Brooke and Congreve); sometimes numerous there (V. Wilson). Fairly common on the meres round Ellesmere (Tower); occurs St. Asaph (Rogers and Wrigley). Two adult males on Llyn Aled 1st April, 1906 (Oldham).

MERIONETH. Common on the coast, estuaries, and larger rivers (all observers). Occasional Rûg (Wynn), Palè (Ruddy).

MONTGOMERY. Seen at Welshpool in December, 1900 (Butterfield). Occasional Forden (Vize) and Llanwddyn (C. Wilson). Fairly common in winter, Llanllugan (Lort).

154.—LONG-TAILED DUCK. *Harelda glacialis* (Linn.).

Rare winter visitor to the coasts, chiefly in the west; obtained once inland.

The Long-tailed Duck is essentially a maritime species, and an expert diver, so that its occurrence on the Severn at Welshpool must be regarded as purely accidental. All other occurrences in North Wales have been on the coast, and of these more than half have been on the west coast of Merioneth. Its visits are generally during the winter months, but in 1898 and 1899 several haunted the estuaries off Portmadoc in March and April, whilst two of the specimens obtained on the Dee Estuary were killed in October. Considering the comparative rarity of the species it is somewhat remarkable that it has been obtained in all the counties of North Wales, except, perhaps, Denbighshire—Mr. Stivens'

bird may have come from that county, as part of the River Conway is in Denbighshire. This species is not mentioned by Eyton.

ANGLESEY. Two in own collection shot off Holyhead (Wrigley); a duck killed near Aberffraw in winter 1895 but not preserved, from description given by Mr. R. D. Williams, seems to have been of this species (Forrest).

CAERNARVON. An immature male in possession of Col Lloyd Evans was shot on a pool between Criccieth and Portmadoc about 1894 (Priestley). An adult male in collection of the late Mr. J. C. Stivens, Chester, was shot on the Conway River (Forrest).

DENBIGH AND FLINT. Has been killed on the Dee Estuary (Brockholes); a female shot there 2nd December, 1886; another in December, 1839 (Dobie's list). Two immature birds shot there in October, 1900, one of them stuffed; another in 1901 (Brooke). Immature female shot there, in collection: another seen (V. Wilson).

MERIONETH. Penrhyndeudraeth, an immature specimen shot 18th November, 1893, as it was diving close under the rocks in the estuary; young birds are not very rare there after heavy gales; a good many visited the mouth of the Traeth off Portmadoc in March and April, 1898, and again in the same months of 1899; these included some very fine old drakes (Haigh). Occasionally seen in Portmadoc district (Evan B. Jones), also in the Dovey Estuary; obtained a young male and an old female (Feilden). A bird of the year obtained at Barmouth (Rawlings).

MONTGOMERY. An adult male in Welshpool Museum, shot on the Severn above Welshpool in December, 1874, by Mr. Richard Clayton (Forrest).

155.—EIDER DUCK. *Somateria mollissima* (Linn.).

Obtained once in Anglesey.

Mr. Walpole E. Eyre informs me that he shot a female near Holyhead about 1884-5. This appears to be the only record in North Wales.

156.—COMMON SCOTER. *Edemia nigra* (Linn.).

Hwyaden Ddu = Black Duck; Hwyaden Fôr = Sea-Duck;
Morhwyaden Ddu = Black Sea-Duck.

Plentiful on the sea in winter; whilst many stay throughout the year;
very rare inland.

The Common Scoter is the most exclusively marine of the ducks, and although numerous at sea all round the coast, it is very rarely seen on land, apparently feeding and even sleeping on the salt water. Like other diving ducks it sits low in the water, so that even when there are large numbers dotted over the surface comparatively few are visible to a spectator on the shore, all but the nearer birds being hidden by the intervening waves. One day in May, 1901, when the sea was a dead calm, I was on a hill above Barmouth, whence a very large area was visible, and as far as the eye could reach the whole of the watery plane was dotted with Scoters, mostly in small parties—there must have been many thousands. It was a striking proof of the abundance of this species even so late in the year as May. Eyton, despite the fact that he made a special study of the *Anatidæ*, was apparently unaware of this, for he merely mentions having obtained the Scoter several times on the Welsh coast.

Although the Scoter occurs at all seasons of the year, and in Anglesey actually goes by the name of "Summer Duck," it never attempts to nest here. The Scoter is a late breeder, so that to find it here in May is not remarkable. At the end of the month, however, the bulk pass on to their breeding haunts further north, leaving only non-breeding birds. One day in May Mr. Oxley Grabham nearly walked on to a fine old Scoter sitting on the ground at Mochras. Mr. G. A. Hutchinson observed a solitary duck haunting the sea below the Little Orme's Head from spring to autumn in 1901; it

never went more than a mile or so seaward. The following March he had a fine view of about thirty Scoters in the same place; they seemed very playful, chasing one another and keeping up a continual whistling noise. The author of Martin's *Wanderings in Wales* describes the note uttered on the wing as a shrill chirping cry, adding that at no time of the year does this duck entirely leave the Welsh coast.

The Soter occasionally ascends the Dee Estuary for some distance, but more frequently the Glaslyn and the Dovey. Inland it is very rare. Mr. Ruddy records one shot at Corwen in January, 1896, and Mr. C. G. Beale one obtained at Maesmawr, near Welshpool, about 1885, whilst I have seen a specimen at the Lyth, Ellesmere, believed to have been shot at Llansilin.

157.—VELVET-SCOTER. *Edemia fusca* (Linn.).

Rare winter visitor recorded at the mouth of the Conway River, and on the coast of Merioneth.

Mr. G. A. Hutchinson has an adult which was shot near Deganwy at the end of 1901, and he reports another obtained at Glan Conway two years earlier, now in the possession of Mr. W. G. Mobley, Harrington Hotel, Llandudno. Mr. F. C. Rawlings states that "a few have been seen at Barmouth, in company with the preceding species." On the other hand Mr. Caton Haigh has "shot immature birds of this species in the district around Penrhyndeudraeth on 24th October, 1892, 10th December, 1896, and 30th November, 1897"; in every case they were alone, and he never saw them consorting with the Common Soter. In April, 1902, Mr. A. Moore saw a black duck with red feet on Mochras; this was probably a Velvet-Soter. A few years ago Mr. F. T. Feilden wounded an old drake on the Dovey Estuary, but failed to get it. Mr. A. B. Priestley mentions the species as occurring on the Traeth Bach. It is not recorded by Eytton, nor does it appear in Dr. Dobie's list.

158.—SMEW. *Mergus albellus* Linn.

LLEIAN WEN = White Nun; HWYADWYDD LEDWEN = Partly-White Duck-Goose; TROCHYDD PENWYN = White-headed Diver.

Winter visitor occurring sometimes on the north coast; very rare in the west.

Eyton stated in 1838 that the Smew occurred on the Welsh lakes during hard weather, but of those recorded below nearly all were on estuaries or on rivers near the sea.

The most noteworthy visitation of Smews to the district is thus described by Mr. R. Newstead, curator of the Grosvenor Museum, Chester:—"During the severe weather of January, 1891, seven of this very beautiful species were seen on several occasions in the River Dee, in the neighbourhood of Saltney Ferry. Three of them (two males and a female) were shot by Mr. T. H. Hignett on the 14th and presented to the museum. Subsequently Mr. Hignett shot another male; this, unfortunately, dropped on the floating ice and was probably carried out to sea. On the 18th I was fortunate in seeing two males swimming near the Chester side of the river, a little below Saltney Ferry. The birds saw me immediately I approached the river bank and got as near the opposite side as they thought safe and there remained for twenty minutes, giving a splendid opportunity of watching their habits. Both were in adult plumage, but from the size of its crest and cautious manners one was evidently an old bird; this fellow acted as sentinel while the other continually dived. Eventually the birds took wing; at first they flew towards the city but gradually wheeled round towards me, flying straight down the centre of the river. When swimming the neck was much arched and the bill scarcely extended beyond the breast. During the whole of the time the crest

was carried semi-erect, and at all times the beautiful greenish-black feathers were conspicuous. The black wing-feathers were hidden by the marginal breast-feathers, giving the birds a much whiter appearance than I anticipated. They uttered no note as they rose from the water; their flight, too, was very silent.”* Ten small flounders were found in the gullet of the male shot by Mr. Hignett.

The scarcity of the Smew on the west side of North Wales and its apparent absence from the Dovey Estuary, where both the other “Saw-bills” occur, is very remarkable.

ANGLESEY. A female in own possession shot on the Cefni River (freshwater) some six miles from the sea about 1868 (Priestley). Male shot Holyhead December, 1906, by Mr. C. Rolleston (R. J. Edwards).

CARNARVON. Not recorded except on Traeth Mawr, the county boundary (see under Merioneth).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*). Mr. Mouldsdales, Llanrwst, has a beautiful adult male obtained there in 1898 (Forrest). Several obtained on Dee Estuary January, 1861 (Shaw, *Zoologist*, 1861, 7388). Seven on Dee near Saltney in January, 1891; four shot but one lost, the other three in Chester Museum: obtained also at Talacre and Burton (Dobie's list). A male in good plumage obtained off Point of Air, in own collection (Wrigley). Have skin of one shot at Glyn Ceiriog (Beale). Occurs rarely on the meres round Ellesmere (Tower). An adult male obtained near Rhyl in collection of the late Mr. J. C. Stevens, Chester (Forrest), and another obtained locally in possession of Mr. H. A. Cleaver, St. Asaph (Rogers). Male obtained Dee Estuary (V. Wilson).

MERIONETH. A young bird appeared on the Traeth Mawr in February, 1897, and remained for about a month (Haigh). Saw one at Ynysfor in March, 1904 (Evan B. Jones).

MONTGOMERY. Not recorded.

* Dobie's list, p. 327.

159.—GOOSANDER. *Mergus merganser* Linn.

HWYADWYDD GYFFREDIN = Common Duck-Goose ; HWYADEN DDANHEDDOG = Toothed Duck.

Winter visitor, not uncommon on north and west coasts and on the Upper Dee. Not recorded in Anglesey or Lleyn, and only twice in Montgomeryshire.

The distribution of this bird in North Wales is peculiar. Eyton speaks of it as "often on the Welsh lakes during hard weather," but so far as the actual records show it seems to occur more often on the coasts and estuaries than on inland lakes, with the exception of Bala Lake, where it is not uncommon. It does not frequent the large river valleys equally, for whilst it has been noted repeatedly on the Upper Dee, only one has been recorded on the Severn in Montgomeryshire. The apparent absence of the bird from Anglesey also is very remarkable, and indeed unaccountable. Adult males are rarely met with. Throughout the district the Goosander is much less common than the Red-breasted Merganser, although in the adjoining county of Shropshire the reverse is the case.

ANGLESEY. Not recorded.

CARNARVON. Rare Bangor (Lort) and Deganwy (Hutchinson). A female preserved at Cobden's Hotel, Capel Curig, shot on the lakes there; others seen on same water at times in winter (Forrest).

DENBIGH AND FLINT. Occasionally on the Dee Estuary and marshes (Brockholes). Adult pair obtained there in 1906 (V. Wilson). One shot and three others seen below Saltney 9th January, 1894 (Dobie's list). Two in possession of Mrs. J. G. Churton, Neston, shot on the Dee Estuary about 1882 (Brooke); one seen near shore, Abergele, in winter 1874 (Clulow). Male and two females in case at Bodelwyddan, shot on the estate (Forrest). One at the Lyth, Ellesmere

from Llansilin (*id.*); one killed by father at Pendwllyn about 1850 (Kyrke); Llanrwst 1830 (*Faunula Grustensis*). One shot on River Elwy, St. Asaph, about 1881 (Rogers). Occasional Llangollen; one at Llandysilio 3rd April, 1881, and two 9th April, 1897 (Ruddy). Two seen Llanrwst January, 1907 (Halhed).

MERIONETH. Palè, frequent in winter, but not so often as *M. serrator* (Ruddy). Occurs Bala (Burton). Dolgelley, a few in hard weather (Bailey). Dovey Estuary, a few most winters (Salter); obtained female and lost an old drake (Feilden). Two shot Bala, 1895 (Buckley). Adult drake in farmhouse, Caergai, shot near Bala Lake in 1901 (Forrest). Barmouth, a few in winter (Roberts); has occurred on many occasions (Rawlings); a pair on sand banks in Mochras Estuary spring, 1902 (Moore). Rare Penrhyndeudraeth; not seen more than two or three times in last ten years, and never an old male (Haigh). Not common Ynysfor (Evan B. Jones); obtained Towyn (Franklin). Four shot by keeper out of seven near Machynlleth March, 1907 (Lewis).

MONTGOMERY. A female found dead at Buttington in August, 1895 (Forrest). One seen recently on Lake Vyrnwy (C. Wilson).

160.—RED-BREASTED MERGANSER. *Mergus serrator* Linn.

Y TROCHYDD BRONGOCH = The Red-breasted Plunger
TROCHYDD DANHEDDOG = Toothed Diver; HWYADEN DDAN-
HEDDOG FRONRUDD = Red-breasted Toothed Duck.

Winter visitor, occurring commonly on the west coast of Merioneth; less frequently inland or on other coasts.

On the west coast of Merioneth the Red-breasted Merganser is a regular winter visitor in some numbers. In the *B.A. Migration Reports* it is recorded as staying at Penrhyndeudraeth as late as 9th May, 1885, on which date a flock was seen. In 1886 the last flock, numbering about a dozen, was seen on 13th April. In 1887 six old males were seen on 1st April. Round Anglesey and along the north coast this species

is not nearly so numerous nor so regular in its visitations; still it is by no means rare. Inland its visits are chiefly to the valley of the Dee between Corwen and Bala. The proportion of adult males is higher than in the case of the Goosander.

ANGLESEY. Seen occasionally about Holyhead (Clulow) and on Menai Straits (Humphreys). One on Menai Straits in 1898 (Marshall).

CAERNARVON. Scarce Deganwy (Hutchinson); shot from time to time between Menai Straits and Orme's Head (*Martin's Wanderings in Wales*, 1864). Fairly common Portmadoc district (Evan B. Jones).

DENBIGH AND FLINT. Not uncommon about Corwen in winter (Wynn). Three in Chester Museum from Dee Estuary; one at Talacre (Dobie's list); a fair number on Dee Estuary in winter (Brooke and V. Wilson); occasional Llangollen, two near Llandysilio 20th March, 1884 (Ruddy).

MERIONETH. Very common on the coast and estuaries round Penrhyndeudraeth, but rarely seen on fresh water (Haigh). Four on Cwm Bychan Lake 9th February, 1902 (Moore). Common every winter Barmouth (Rawlings). Occurs in hard weather Dolgelley (Bailey) and Towyn (Franklin, Hughes and Kirkby); seen several obtained in that district, adult males in December 1900 and 1903 (Forrest). Every winter on Dovey Estuary in small flocks (Salter). Two females obtained February and adult drake 24th September, 1903 (Feilden). Frequent in winter about Palè (Ruddy).

MONTGOMERY. One shot out of three on Severn at Bronhafren, Montgomery, 2nd January, 1850 (*Zoologist*, 1850). Adult shot by Mr. Verdon on Severn, two miles above Welshpool, 5th December, 1903 (Harrison).

161.—HOODED MERGANSER. *Mergus cucullatus* Linn.

Recorded once only, on Menai Straits.

Eyton had a specimen in his collection killed on the Menai Straits, near Bangor, during the winter of 1830-1—a young male of the year. This same example is described and figured in his *Rarer British Birds*, p. 75. It was the second specimen of this American bird obtained in Britain.

162.—WOOD-PIGEON, OR RING-DOVE. *Columba palumbus* Linn.

CUDDAN, or YSGUTHAN = Cooing Bird; COLOMEN WYLLT = Wild Pigeon; COLOMEN GOED = Wood-Pigeon.

Common throughout North Wales; often large flocks during winter.

The Wood-Pigeon, or Quice, as it is generally called along the English border, is so common everywhere that details of its distribution would be superfluous.

In North Wales, as elsewhere, it has greatly increased during recent years, so that in many parts of the country it has become a serious pest to the farmer. It is least numerous in the far west and Anglesey, and most plentiful in the eastern half of the district, particularly along the upper Dee Valley, where, even in the breeding season, I have seen about thirty feeding at once on a single field.

The species naturally affects wooded country; but even the presence of trees does not seem to be essential to it, for in such barren places as parts of Lleyllyn and Anglesey the Wood-Pigeon is found in fair numbers. Of the former district Mr. O. V. Aplin wrote in 1900 that it did "not seem to be abundant in Lleyllyn"; but three years later he writes: "More abundant than I supposed." In Anglesey I have seen a great many about Aberffraw and Amlwch, where there are hardly any trees. Mr. S. G. Cummings observed several on stunted trees and bushes on cliffs at Porth Wen, where it breeds; whilst Messrs. Coward and Oldham describe it as common, and not confined to woods in south Anglesey. In the Porthmadoc district Mr. Caton Haigh states that it has increased much during the last twenty years. Large flocks sometimes appear in winter, as in that of 1900-1. Dr. Dobie records it as an abundant resident in Denbigh and Flint, and quotes Mr. Newstead and Rev. C. Wolley Dod as being of opinion that an abundant crop of acorns attracts the large flocks of migrant Pigeons, which sometimes appear

towards the end of the year. They certainly are very fond of acorns, and one will take into his crop as many as sixty or seventy fair-sized ones. Mr. Ruddy states that there were very large flocks in the neighbourhood of Llandderfel in the early spring of 1900, feeding on the leaves of young clover, and doing great damage by gorging themselves with the tender parts of the plants. He, too, found that in November and December they usually fed on acorns; but in 1902 these were remarkably scarce, and the pigeons took to eating holly-berries, stripping the trees almost entirely. Where food is abundant the Wood-Pigeon will gorge an amount of food that seems almost incredible, and the crop becomes so distended that it is not uncommon for it to burst when a shot bird falls to the ground. Not only is this so, but I believe that the bird will fill itself with food more than once in a day if it finds good store of any favourite provender, such as clover.

Although ordinarily it lays but two eggs, Mr. A. R. Horwood found a nest with three near Montgomery in 1901. The Wood-Pigeon is very prolific, for its breeding season lasts from very early spring to late autumn. It usually has two or three broods every season, and I am inclined to think that it sometimes rears four broods, though there is no actual proof of the fact. Nests containing young in November have been recorded at Newtown in 1858,* and near Mold in 1895.†

163.—STOCK-DOVE. *Columba oenas* Linn.

YSGUTHAN=(See Ring-Dove); COLOMEN DDOF=Tame Pigeon (So called under the erroneous idea that the Stock-Dove was the original stock whence our domestic Pigeons came).

Resident, and more or less common throughout the district; more numerous on the coasts than inland.

The Stock-Dove is easily distinguished from other wild

* T. E. Issard, *Field*, 1858, 518. † R. Ashton, *Field*, 16th November, 1895.

pigeons by its prevailing slate-blue colour and by the *absence* of white from its plumage. It is unfortunate that it is often mis-called "Blue Rock-Pigeon," as it is thus confounded with the next species, the Rock-Dove, which has a white rump, and is whitish under the wings. There seems always to have been a good deal of confusion on these points, and the task of disentangling the various statements of correspondents and authors on the two species has been by no means an easy one.

It is, nevertheless, abundantly clear that the Stock-Dove is quite common all along the coasts as well as in smaller numbers inland. Eyton wrote in 1838 that "perhaps" the Stock-Dove bred in North Wales. As a matter of fact it not only breeds abundantly throughout the district, but it exhibits an extraordinary adaptability of nesting-habits according to locality. Thus, along the north coast and in west Anglesey and Merioneth, where there are long stretches of sand-dunes, it breeds in burrows in the sand. At Llangollen, Dyserth, on the Orme's Heads, and in other places where there are rocky cliffs, it lays its eggs in crevices of the rocks, whilst inland it will breed in hollow trees, on trunk-heads, in ivy against a rock or tree-trunk, in rabbit burrows, or even on the ground amongst fallen stones, or under a gorse-bush. The eggs are also sometimes deposited on a squirrel's drey, or the old nest of some other bird.

On 23rd April, 1898, Mr. W. M. Congreve found a nest in an ivy-covered tree at Segrwyd, Denbigh, containing three eggs, instead of the normal two. The eggs may easily be distinguished from those of the Ring-Dove by their distinct creamy hue, and by being less glossy. In July, 1901, Mr. A. R. Harwood found two eggs in a nest from which two young had been taken only a week before.

Mr. O. V. Aplin records the Stock-Dove on Bardsey. On 7th November, 1903, Mr. S. G. Cummings observed a migratory party of over two hundred on Sealand, and another of about four hundred in February, 1905. Smaller parties have also been seen in winter on the Traeth Mawr by Mr. G. H. Caton Haigh.

164.—ROCK-DOVE. *Columba livia* J. F. Gmelin.

YSGUTHAN OR COLOMEN Y GRAIG = Rock-Pigeon.

Resident, a few pairs breed on precipitous coasts of Carnarvon and Anglesey, and possibly inland.

In addition to the difficulties alluded to under the head of Stock-Dove, there is the further difficulty of ascertaining whether the undoubted Rock-Doves met with are genuine wild birds or dovecot pigeons which have reverted to the wild state. To decide this question is practically impossible, and the only course open is to state the bare fact that there are Rock-Doves resident in a few places on the coast, and in one or two inland localities. It is probable that the former are in most instances really wild and the latter feral, but even the first of these hypotheses is not invariable. True Rock-Doves have been shot at Valley, Anglesey, in winter, and I was told that they bred in certain cliffs north of Rhosneigr. I failed to find any there, however, but discovered some red and pied pigeons in a cave near Rhoscolyn! The statement given by A. G. More as to the Rock-Doves' nesting in Denbighshire probably refers to the limestone cliffs round Llangollen, a likely spot if the bird really occurs. The rocks round Llanymynech are similar in character. I am inclined to think that in both these inland localities the Rock-Doves are feral.

Practically the Rock-Dove is confined in North Wales to the precipitous coasts of Carnarvonshire and Anglesey, whilst even in these counties it is rare. The author of Williams' *Llandudno Guide*, writing in 1863, speaks of it as inhabiting the Great Orme's Head and Rhiwleden (*i.e.*, Little Orme), and breeding in deep crevices of the rocks. J. Price adds: "Here it lives the greater part of the year,

only venturing during autumn as far inland as may be necessary to visit the nearest cornfields from which it can obtain food; this is the dove from which our domestic pigeons are derived." Speaking of the same place, Pennant says that "abundance of Rock Pigeons regularly breed there in preference to the dove-houses, which they constantly quit at their laying time."* This seems to imply that the birds on the Little Orme are from a domesticated stock.

ANGLESEY. Holyhead. A few (Edwards) used to nest in private property on Holy Island belonging to Lord Stanley (Marshall). One seen near Bull Bay 14th April, 1901; not met with since (Cummings). Seen on north coast in former years by Mr. R. Newstead (Coward and Oldham). Shot several near Valley at Christmas a few years ago (J. Steele Elliot).

CAERNARVON. A few breed on both Orme's Heads and on Conway Mountain (Hutchinson). Seen near Pwllheli (McAldowie). Not observed in Lleyn till 1902, when identified beyond a doubt near Pen-y-cil, but very rare (Aplin). Seen on coast of Lleyn (Johnes). Several Abersoch September, 1904, and June, 1905 (Savage). Inhabits the cliffs of the Great Orme's Head and Rhiwledn (Williams' *Llandudno Guide*, 1861).

DENBIGH AND FLINT. No certain record (Dobie's list). Scarce Colwyn Bay (Russell). "Rev. H. H. Crewe has observed it nesting in Denbighshire and there are probably several other localities in Wales" (A. G. More, *Ibis*, 1865, 50). A few couples nest in limestone scars at Nantyffrith, near Wrexham (Kyrke). Occurs St. Asaph (Wrigley).

MERIONETH. Penrhyndeudraeth, never seen in district; those seen at Barmouth may be escaped birds (Haigh). A few pairs used to breed Barmouth (Rawlings). Used to breed on the Garn there (Roberts).

MONTGOMERY. A few breed in limestone rocks near Llanymynech (Lees). One seen there in summer entering rock crevice (Forrest).

* *Tour*, 1810 Ed. III., 153.

165.—TURTLE-DOVE. *Turtur communis* Selby.

COLOMEN FAIR = St. Mary's Dove; TURTUR = Turtle.

Summer migrant; common in the eastern half of the district and gradually increasing and spreading westwards.

The gradual change which has taken place in the distribution of the Turtle-Dove during recent years is shown in a most interesting way by the records given below. Writing in 1865, A. G. More marked it as "probably" breeding in North Wales, but had no actual record, although four years earlier it had been recorded as a regular visitor to Llandudno. From that time forward it began to overspread the eastern half of North Wales, and increased so rapidly that twenty-five years later it had become common in that district. Further west, however—to the western side of Montgomery and Merioneth—it had only just begun to penetrate, and only a pair here and there nested, whilst even now along the west coast the species is only known as a passing migrant in early summer, or more rarely in autumn. Along the north coast, however, its progress westwards has been more rapid, as it had established itself at St. Asaph and Llandudno in the sixties, and at Bangor by the end of the nineteenth century. It now breeds regularly all along the north coast as far as Bangor, and will probably do so before long in all the wooded parts of Carnarvonshire and Merioneth.

Mr. S. G. Cummings has observed this bird soaring with motionless wings like a Ring-Dove, and returning to the same tree from which it started. It also claps its wings together sometimes. It is never double-brooded in North Wales, eggs being rarely laid before June.

ANGLESEY. Occurs only as a passing migrant. A pair seen south of Holyhead by Dr. W. H. Dobie and self 8th May, 1893 (Cummings).

CARNARVON. Uncommon Bangor, only seen of late years (Lort). Breeds there now every year (W. Lester Smith). Two or three pairs nest near Penrhyn Park (Humphreys). Seen Llanfairfechan May, 1904 (Benson). Seen there and at Llandegai 2nd July, 1904 (Cummings). Penmaenmawr, regular visitor since 1896 (Kneeshaw). Common and breeds round Deganwy (Hutchinson). One visited Nanhoron about May in 1898 and 1899 (Lloyd Edwards). One seen on Bardsey May, 1902 (Aplin). A summer visitor to Llandudno district (Williams' *Llandudno Guide*, 1863).

DENBIGH AND FLINT. Common Colwyn Bay (Russell). Fairly common St. Asaph (Watts and Wrigley), Ruthin (Steer), Corwen (Wayne), and all along Vale of Clwyd, 1901 (Forrest). Denbigh, has become common within the last few years (Congreve). Common along Dee Estuary (Brooke and Wilson) and in fields on Dee Cop (Cummings), Trevor and Acrefair (Attlee), Nantyffrith, Wrexham (Kyrke), about Chirk, Llangollen and Corwen (Beale). First noted Llanerch Park, St. Asaph, in 1865 (Wolley Dod, *Field*, 22nd July, 1865). Recorded as more or less common in many parts of both counties (Dobie's list). A number on Dee marshes feeding in pairs and little parties 17th June, 1900. Noted at Rossett 8th July, 1905 (Cummings). Heard cooing at St. Asaph 30th August, 1905 (Rogers). Scarce Llanarmon (Morgan). Few pairs Llangollen (Ruddy).

MERIONETH. Palè, several pairs; was very rare twenty-five years ago (Ruddy). Bala, a recent addition; three pairs in our own ploughed lands, 1899 (Burton). Occurs regularly now but in small numbers, Dinas Mawddwy and Bala (Buckley). Seen near Bala May, 1898 (Cummings). Scarce but increasing, Corris (Birley). Noted at Towyn, but scarce (Robinson). Barmouth, two seen and one obtained in autumn, 1892 (Rawlings). Heard of one near Dolgelley May, 1901, and two at Barmouth in a preceding September. One seen Abergynolwyn and two at Tal-y-llyn 2nd June, 1902 (Aplin). Seen once on west coast (Wayne) Penrhyndeudraeth, first ever seen there 2nd June, 1895; again 8th June, 1897; May 19th and June 14th, 1899—in each case only a single bird (Haigh). Rare Ynysfor, does not breed (Evan B. Jones).

MONTGOMERY. Common and increasing (many observers). Pair nested at Llanbrynmair for first time in 1887 (W. Lester Smith).

166.—PALLAS'S SAND-GROUSE. *Syrrhaptes paradoxus*
(Pallas).

Has occurred on one or two occasions on the west coast.

It is a curious circumstance that the very first specimen of this Asiatic bird obtained in Britain was killed on the west coast of Wales. It was shot near Tremadoc on the 9th July, 1859. A notice of the occurrence appeared in the *Zoologist* and was copied in the *Field*, 17th September, 1859. From this it appears that there were three together; one of them was shot by a labourer in the employ of Mr. Chaffers, while the other two flew off in an easterly direction. Mr. Caton Haigh reports that one is said to have been killed against telegraph wires near Llanbedr in 1888, but he did not see it; whilst Mr. F. C. Rawlings adds that Sand-Grouse were seen that year on Mochras by a gamekeeper and others, though none were procured.

[CAPERCAILLIE. *Tetrao urogallus* Linn.

Amongst the species enumerated by Pennant in his *Tour* as beasts of the chase in Wales appears "Ceiliog coed, or Cock of the Wood." He adds: "The bird mentioned here is the Cock of the Wood, whose nature it is to sit perched on a bough where it will gaze till it is shot, as it was in the old times by the bow or cross-bow." This quotation is from the disquisition on hunting which appears under the head of *Cwm Bychan*.]

167.—BLACK GROUSE. *Tetrao tetrix* Linn.

GRUGIAR DDU = Black Heather-Hen; CEILIOG DU = Black-cock; CEILIOG Y MYNYDD* (*f. IÂR FYNDD*) = Cock of the Mountain; CEILIOG Y RHOS* (*f. IÂR RHOS*) = Heath-cock.

Resident and indigenous in Montgomeryshire, where it is fairly common; a few here and there in the other counties except Anglesey; usually introduced.

So far as can be gathered from the records, the Black Grouse occurs naturally only in Montgomeryshire, where it is probably indigenous. It is doubtful whether it is a denizen of the adjoining parts of Flint and Denbigh, since we find Eyton as long ago as 1838 writing of unsuccessful attempts to introduce the bird on the Berwyns.† Since then many attempts of the same kind have been made in various parts of North Wales, but always with the same result—the birds gradually died out or wandered away; usually the latter, since solitary Greyhens are now and then met with in unexpected places.

A hybrid between the Pheasant and Greyhen in the Hawkstone collection was obtained near Corwen some time previous to 1838. It is mentioned by Eyton in his *Rarer British Birds*, and appears to be the only example of this hybrid obtained in North Wales. I have examined a bird in the possession of Mr. A. Foster, Bettws-y-coed, which appears to be a hybrid between the Black and Red Grouse. It was shot on Yspytty Moor, 20th November, 1897. Mr. Foster had heard of Black Grouse being introduced there about thirty-five years before, but they did not succeed. On 9th December, 1895, he shot a hybrid between a Greyhen and Red Grouse, and the following season a Greyhen; then in 1897 he shot the hybrid

* The names "Ceiliog y Mynydd" and "Ceiliog y Rhos" are used indiscriminately of all the species of Grouse.

† Pennant in his *Tour* mentions Black and Red Grouse as existing in small numbers on the Clwyd Range; but a footnote to the 1810 edition, p. 59, says that the former was quite, and the latter nearly extinct there then.

mentioned above. Since then he has observed two Greyhens on the moors, and in August, 1901, another Greyhen was killed at a grouse-drive. These are all the Black Grouse he has come across during the twenty-eight years, ending 1902, that he has resided in the district. Of course there are plenty of Red Grouse in the district, so that the hybrid would probably be produced from a Black Grouse pairing with one of the other species through being unable to find a mate of its own species.

The Black Grouse affects wooded country rather than the heathery moors so loved by the Red Grouse, and where it is introduced it naturally seeks coverts and dingles on the hillsides. It is difficult to account for the ill success which has attended all attempts to naturalize it in those parts of North Wales where it is not indigenous.

ANGLESEY. Unknown.

CARNARVON. Introduced Vaynol, 1896, but most went away in the autumn, disturbed by the shooting (Lort). Several seen on the mountains above Conway about this time, doubtless from Vaynol (Hutchinson), others killed at Pantglas (Haigh). Bettws-y-coed district (see Mr. Foster's notes above—hybrids).

DENBIGH AND FLINT. In the sixties common in parts of both counties but now nearly extinct, the last Greyhen in Flintshire believed to have been killed at Nantffrith about 1873; a strong Blackcock seen near Llandegla in spring, 1893 (Dobie's list). Shot at Garthebog, Llanrwst, about 1828 (*Faunula Grustensis*) a few still at the Quinta, Chirk, in 1892 (A. T. Jebb in *Bygones*, 1892, 381). Mold, very scarce (Cooke). Greyhen seen two seasons Llanarmon D.C.; accidentally shot 1891 (Beale). One reported Colwyn, 1901 (Russell), probably from Vaynol (Forrest). Introduced on the Berwyn chain near Corwen but appears to decrease in numbers (Eyton, 1838). Noted at Carrog in 1870 (Crompton). Rare Llangollen, one shot Eglwyseg Rocks 9th September, 1891 (Ruddy).

MERIONETH. Rare Palè; Greyhen shot on grouse moor 31st October, 1893; Blackcock and two Greyhens seen there 29th September, 1902, all young birds, so probably reared there (Ruddy). Rare but occurs about Bala (Burton). Cerrig-y-druidion (Buckley). Dinas Mawddwy (Steadman). Llanbedr (Pearse). Blackcock in birchwood near Carnadochan.

May, 1901; seen there two years by keeper; also on Aran (Davenport). Dovey Estuary, probably extinct though Greyhen shot by Mr. F. T. Feilden in 1886 (Salter), also killed at Peniarth (Haigh). Increasing round Dolgelley; brood reared on Cader Idris 1901 (Salter, *Zoologist*, 1904, 66). Several at Dolserau, Dolgelley and Aberhirnant, Bala, 1896, though none seen in neighbourhood for thirty years previously (*Field*, February, 1897). Some turned out near Machynlleth about 1886 by Sir Pryce Pryce; rare now (Lewis); a few in one locality in the west (Aplin).

MONTGOMERY. Fairly common about Llanllugan and in the parishes of Llanfair Caereinion and Carno (Lort), Llanerfyl (Harington); a few Carno (Davies). On the hills between Caersws and Llanerfyl; three or four shot each winter (Williams). Some on the Long Mountain (introduced there), Kerry Hill, and at Cann Office; a local game-dealer says a good many obtained each season in district (Butterfield); a good many on Kerry Hill; old cock seen 1903 (Wrigley). Some about Montgomery (Brown). A few stragglers at Llanbrynmair from Carno (W. Lester Smith). Greyhen shot in north Montgomeryshire October, 1885 (*Field*, 1885, 640); a few Llanwddyn (C. Wilson).

168.—RED GROUSE. *Lagopus scoticus* (Latham).

COCHIAD = Red Game, Grouse; COCH Y GRUG = Red of the Heather; IAR GOCH = Red Hen; CEILIOG and IAR Y MYNYDD = Cock and Hen of the Mountain; GRUGIAR = Heather-Hen.

Resident and common on heather-clad moors and mountains.

Eyton described the Red Grouse in 1838 as "common on the Welsh mountains," and indeed there are few finer grouse moors in the kingdom than those which stretch across the broad back of the Berwyn range from one end to the other; whilst on the further side of the Dee is another extensive tract of country (embracing almost the whole of Denbighshire and part of Flint), which is almost equally famous for its Grouse. The bird is found, too, in fair numbers in the

adjoining parts of Carnarvon and west Merioneth wherever the mountains are not too rugged and bare. The northern part of Montgomeryshire, too, is good grouse country. Now and then Grouse have been known to take up quarters in unexpected localities. About 1898, in hard weather, some hundreds came to Rhiw Mountain, in Lley, and many went on to Bardsey. These last soon disappeared, but a few stayed on Rhiw and bred there.* On 21st March, 1905, Mr. S. G. Cummings found fresh feathers of a Grouse on Carmel Head from a bird which had evidently been plucked on the spot by a Peregrine Falcon. This is the only instance of the occurrence of Red Grouse in Anglesey. About 1900 some were turned down on Whixall Moss, Flintshire, with the idea that they might flourish on the heather; but the situation was too low and damp, and they soon disappeared.

Mr. John A. Bucknill states that the Grouse on the Dolwyddelan moors are a very large, strong, and healthy race, disease being unknown. He has weighed birds there up to $1\frac{3}{4}$ pounds, and in 1894 he obtained a beautiful pied specimen with breast and wings nearly pure white. He adds that "in winter, when the snow is very deep, the wooded sides of Bertheos afford shelter to the Grouse from the moors all round, and the number packed together is quite incredible to a person who only knows the hills in their normal state, and the number of birds usually seen."† The Hon. C. H. Wynn has a buff-coloured specimen obtained at Rûg, and has seen others. He attributes this colouring to disease of the liver. There is a very dark-coloured Grouse from Moel Famau in the Chester Museum, and a pretty white-mottled variety in the museum at Whitchurch, Salop.

In 1897 a nest was found on Mynydd Nodol, near Bala, which contained three eggs as early as 5th March.‡ In May, 1904, Mr. C. Oldham flushed a Grouse from a brood of five young chicks by Llyn Bran, near Pentre Voelas. It flew across the lake, striking the water with its wing-tips. The chicks only remained still for a few seconds, and then,

* O. V. Aplin. † *Ornithologist*, 1896, 92. ‡ *Bygones*, 1897, 52.

although untouched, ran in different directions, cheeping shrilly. This habit of young Grouse is very curious, and one would think that the chicks would be safer if they remained quite still and did not cry. On 1st June, 1906, Mr. S. G. Cummings found a nest with eggs in long grass, some distance from any heather.

[PTARMIGAN. *Lagopus mutus* (Montin).]

The late A. G. More wrote in the *Ibis*, 1865, under the head of Ptarmigan:—"There is a tradition of its former existence in Wales, but I have not been able to discover the original authority for this statement, which is repeated by both Macgillivray and Thompson, and in Graves' *British Ornithology*."

169.—PHEASANT. *Phasianus colchicus* (Linn.).

CEILIOG Y GOED = Cock of the Wood; IAR GOED = Wood-Hen; FFESANT = Pheasant.

Common in all counties.

All observers record the Pheasant as more or less common in places where it is preserved, but only up to a moderate altitude.

In the district round Portmadoc, Mr. Caton Haigh reports that large numbers are reared, all ringed birds (*P. torquatus*) except where other breeds have been specially turned down. Mr. S. G. Cummings has frequently seen Pheasants in the bare country along the north coast of Anglesey where they breed; he has seen a nest under gorse on the top of a mynydd, and noted that the Pheasants there are not ringed. Dr. W. H. Dobie mentions a hybrid between a cock Pheasant

and domestic fowl in the collection of Sir Pyers Mostyn at Talacre.

170.—COMMON PARTRIDGE. *Perdix cinerea* Latham.

PETRISEN = Partridge; CORIAR = Little Hen; CLUGIAR = Click Hen.

Common in all suitable country, and up to 1200 feet elevation.

The Common Partridge is especially abundant in Anglesey, and common in all suitable country throughout North Wales. Mr. Caton Haigh speaks of it as very abundant in Lley and west Carnarvonshire, but much less so in Merioneth and the mountainous parts of Carnarvonshire. Still it occurs on the mountains in greater numbers, and at a higher altitude, than one might expect. Eyton says: "The Partridges found on the Welsh mountains are of a smaller size than those of Shropshire," but in this he was probably mistaken. Mr. John A. Bucknill, writing of the moors about Dolwyddelan, says that Partridges "frequent the low-lying moorlands and cornfields at the base of the hills; they lie very close indeed in the rough scrub on the side of the moor, and are very hard to find even with a dog; they are fine big birds and have a very strong flavour, owing, no doubt, to the heather on which they feed."* In a recent letter he adds that since then he has shot them high up on the mountain; also that the broods there are rather late. There is no apparent variation in plumage owing to this moorland breeding.

Partridges with a white "horse-shoe" on the breast occur in Flint and Denbighshire; I believe these are invariably females. In the *Field*, 9th October, 1897, Mr. L. S. Lush records a brood of young Partridges on the Berwyns, five of which were white and five of the ordinary colour. The cry of the white ones was noticed by several people as differing from that of the normally-coloured ones, being "a whistling

* *Ornithologist*, 1896, 51.

squeak not unlike the cry of a young Wood-Pigeon." Mr. R. O. Perrott shot a white Partridge at Llansantffraid (Montgomery) in December, 1879.*

An example of the rufous form (*P. montana* Brisson) obtained near Holyhead, passed through the hands of Mr. Hutchinson, taxidermist, Derby, a few years ago.

In the *Field*, 24th August, 1872, is an account of a covey of eight full-grown Partridges being all caught by hand on the sandhills by Barmouth Estuary; apparently they had been frightened by a hawk.

171.—RED-LEGGED PARTRIDGE. *Caccabis rufa* (Linn.).

PETRISEN GOESGOCH = Red-legged Partridge.

An introduced species, met with in all counties except Carnarvon; rare.

Although it is not in every case known how the birds reached the localities in which they were found, there is no doubt that all the Red-legged Partridges in North Wales are derived from introduced birds, or from eggs imported and reared under Common Partridges or domestic fowls. The recorded localities being so scattered points to the same conclusion, but it is possible that the examples mentioned on the Shropshire border of Montgomeryshire may have wandered thither of their own accord.

ANGLESEY. Several shot in the neighbourhood of Llanerchymedd between 1860-70; believed to have come from eggs hatched under hens by the late Lord Boston; they did not thrive, and none were seen after 1869 (*Field*, 3rd March, 1883). Obtained one near Aberffraw in the sixties, probably same origin (Gosling).

CARNARVON. Unknown.

DENBIGH AND FLINT. Saw a number at Eglwysbach about 1895 that had been killed by the keeper; they had been introduced there but were afterwards killed off (Moore). One shot from

* *Field*, 26th December, 1879.

a covey of Common Partridges at Gresford (*Field*, 21st April, 1883). One shot at Bagillt by Mr. Pierce 1st October, 1892; one on Sealand (Dobie's list). One shot near Corwen 29th November, 1902, evidently out of a lot turned down there not long before (Ruddy).

MERIONETH. Saw a fresh egg brought in to Mr. Rawlings, Barmouth (Jourdain), who has known of several nests there in recent years (Forrest). Occurs at Towyn, breeds there, and is increasing fast, though it is not known how the bird got there (Kirkby).

MONTGOMERY. Eleven turned down at Llanllugan about 1875 by Mr. W. Lort: all disappeared (Lort). Several have been met with about Forden (Vize). Covey at Marrington, 1897, evidently reared there (Horwood). Turned down between Caersws and Llanidloes and bred there (Williams). Met with a few years ago under the Breidden (Meredith).

172.—QUAIL. *Coturnix communis* Bonnaterrre.

SOFLIAR = Stubble-Hen; **RHINC** = Quail (from the cry).

Irregular summer migrant met with in all counties; numerous in 1870 and 1893.

Although the Quail has been recorded all over North Wales in the lowlands, and has also nested in many places, its visits to the Principality are very irregular. In 1870 it appeared in considerable numbers in Flint and Denbigh as well as in south-west Merioneth, and many nests were found that year. A similar influx, but on a rather smaller scale, took place in 1893. Some few of the 1870 birds seem to have stayed on into 1871 and 1872, and there is one recorded in mid-winter (1st January) by Mr. G. H. Venables Kyrke, at Nantyffrith, near Wrexham. As to bygone years few data are available, but since the Quail nested at Conway in 1796 it has probably always occurred from time to time in North Wales. So far as can be judged by actual records the Quail is rarest in Anglesey and Carnarvon, and most numerous in Flint and Denbigh. In Merioneth it is almost

confined to the south of the county, whilst in Montgomeryshire it is only occasionally met with, and never numerously.

ANGLESEY. Holyhead, a bevy occasionally in a dry season, but becoming rare (Edwards); killed two about 1893 (Clulow). Rare Rhosneigr (Long). Breeds occasionally west Anglesey (Humphreys). Heard in four places in the west in 1904 (Coward and Oldham).

CARNARVON. Only once met with—a single bird 13th September, 1900, in turnips near Broom Hall, Pwllheli (Haigh). 1870 was a great Quail year; in September, killed two one day and six the next; one bevy was hatched near Carnarvon, another near Crickieth; saw the old nest (Priestley). Has nested and been obtained Nanhoron (Lloyd Edwards). Bangor, appeared in small numbers in 1870, none since (Lort). Scarce, but has occurred Bettws-y-coed (Foster) and Deganwy (Hutchinson). Daniel's *Rural Sports* mentions a nest and eggs at Conway in 1796 (Wrigley). Turned down in 1898 at Dolwyddelan, but without success (Bucknill). Mr. Jones, Bryn Ash, Talybont, remembers Quails numerous in Conway Valley and breeding there; he last saw them in 1892 (Hutchinson). Has occurred Llandudno (Williams' *Llandudno Guide*).

DENBIGH AND FLINT. Recorded in many parts of both counties but very irregular in its visitations; several pairs nested near Corwen in 1871, whilst in 1893 Quails bred in the neighbourhood of Mold, Wrexham, Holt, and probably in other places, as birds were shot and heard that year all over the district (Dobie's list). About 1872, one shot on New Year's Day at Nantyffrith (Kyrke). Several nests in 1870 at Maesmor, Corwen (W. J. Kerr, *Zoologist*, 1870, 2345). Heard calling Llanellian 17th July, 1896, and once since (Russell). Specimen in Chester Museum, shot near Rhyl, 1893 (W. Lester Smith). Scarce, breeds occasionally Mold (Cooke). Rare Ruthin (Steer). One or two shot on Dee Estuary (Brooke). Llanrwst, 1830 (*Faunula Grustensis*). One at the Lyth, Ellesmere, from Llansilin (Forrest). Abundant in Flintshire 1893; not noted there before except in 1870 (P. T. G. in *Field* 24th June, 1893); heard on Sealand 1893 and 1895 (Cummings). Has bred at Rossett (J. D. Jones).

MERIONETH. Occasional about Palè (Ruddy). Dovey Estuary (Feilden), occurs almost every season, sometimes numerous (Salter); Towyn (Robinson), a great number there in 1870-2; nested; one hen so tame could be lifted off the nest without forsaking; many killed those years; one nest 1898 (Kirkby). Met with when Partridge-shooting at Dyffryn, Dolgelley

(Bailey). Shot near Harlech in 1868, young birds, must have bred there (Wayne). Has nested at Dinas Mawddwy and Lliidiardau (Buckley). Turned down about Bala in 1870 and 1871, but without success (Ruddy).

MONTGOMERY. Observed once in 1873 at Trefnanny (Mytton). Saw four and shot two of them near Criggion in September, 1893 (Beck); brace near Chirbury (Harrison) bred at Kerry and Caersws; some young ones killed; none seen since (Williams). Rare Leighton (Bruce); obtained at Meifod (Lort). One shot Llandyssil 24th September, 1880 (*Field*). Noted at Llansantffraid in 1893 and 1905 (Kempster).

[VIRGINIAN COLIN. *Ortyx virginianus* (Linn.).

A specimen of this American species was shot near Bala in 1898 and sent for preservation to Mr. Geo. Cooke, taxidermist, Shrewsbury, where I examined it. Mr. F. C. Cobden, of Capel Curig, tells me that about that time a covey of these birds frequented the neighbourhood of Llyn Elsi, near Bettws-y-coed, and he saw two of them shot. These birds must have come from a distance as none were ever turned out in North Wales so far as is known.]

173.—LAND-RAIL, OR CORN-CRAKE. *Orex pratensis*
Bechstein.

RHEGEN YR YD = Corn-Crake; RHEGEN Y RHYG = Crake of the Rye; SCRAD Y GWAIR = Screech of the Hay.

Summer migrant, common in all counties (especially Anglesey) in lowlands, and on hillsides up to 1000 feet elevation.

Pennant mentions the Corn-Crake as being very abundant in Anglesey—a fact just as true at the present day. The bird is not confined to lowland meadows, but is found on hillsides and moors at a considerable altitude. Mr. J. A.

Bucknill found it breeding on the Dolwyddelan moors at an elevation well over 1000 feet. Mr. Caton Haigh, too, has shot it on elevated moors in Carnarvonshire, and remarks that besides inhabiting meadow-lands it often frequents gorse. The Corn-Crake also visits some of the islands, and has been recorded on Puffin Island, Bardsey, etc. About Towyn, Machynlleth and Corris the Corn-Crake is said to have been less numerous of late years than it used to be. Dr. Jackson has never heard one at Aberdovey.

In 1884 Corn-Crakes arrived and left Bardsey early on account of the dry season. One was killed at the Skerries lantern at 2 a.m. on 9th October, 1886, and some were seen to arrive at Holyhead at 2 p.m. on 9th May the same year.* The Rev. Robert Williams in his *History of Aberconwy* says the Corn-Crake was usually heard there during the first week in May, but the average date of arrival is a little earlier than that. In 1883 it arrived at Llandudno 29th April. At Colwyn Bay the earliest date noted by Dr. Russell was 14th April, 1893; average 23rd April: at Palè, earliest 23rd April; average 2nd May (Ruddy): Welshpool, earliest 21st April, 1894; average 28th April (Harrison). Col. Mostyn records in the *Field*, 9th May, 1874, that one was caught in a hothouse at Mostyn, 23rd April; this must have just arrived.

In 1902 Mr. G. A. Hutchinson saw a pair alight on the road at Penrhos on 23rd April. They seemed dazed and sat there till his bicycle was within two yards, when they ran off into a field. From this it would seem that the Corn-Crake sometimes migrates by day as well as by night. On 5th June, 1899, Mr. S. G. Cummings found a nest with eight eggs on the point of hatching, so that this bird must have laid about the second week in May; most authorities give the time of laying as the end of May or the beginning of June.

Individuals are sometimes met with very late in the year, and these are probably sickly or injured birds unable to

* *B.A. Migration Reports*, 1886.

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migrate at the usual time. Thus one was caught at Pentrefelin, Llangollen, in December, 1892*; another in Montgomeryshire, 8th November, 1886; whilst in 1901 Mr. Henry Owen, of Shrewsbury, shot one near Bala on 4th November. In the *Field*, 23rd September, 1899, Rev. J. B. Meredith noted two occasions on which he saw the Corn-Crake deliberately take to the water and swim—on the Cain at Llanfechain, and on the Vyrnwy; the editor of the journal remarked that the Water-Rail, Spotted Crake, and Moorhen all do the same, though none of them are web-footed.

174.—WATER-RAIL. *Rallus aquaticus* Linn.

RHEGEN Y DWR = Water-Crake; RHEGEN Y GORS = Marsh-Crake.

Common in winter on lowland marshes; nest rarely found, but probably many pairs breed.

Owing to its skulking habits the Water-Rail is very rarely seen in summer. It conceals itself on the slightest alarm, and very little cover is sufficient for the purpose. In winter, when the vegetation is scanty, the bird is far more in evidence, so that in most districts it is regarded as a winter visitor. How far this is true it is difficult to determine, but there is little doubt that many more pairs breed in North Wales than is generally recognized. A. G. More marked it in his list as breeding in the district, but gave no details.

The Water-Rail swims and dives well, although it is not web-footed, whilst its long toes enable it to run on the surface of water-weeds without sinking. Mr. Ruddy saw one swimming and diving in the Dee at Llandderfel on 20th December, 1902. Dr. W. B. Russell reports that in the winter of 1906-7 a Water-Rail took up its quarters beneath some bramble bushes in a dingle by the railway at Colwyn

* *Bygones*, 1892, 464.

Bay ; it became quite tame, and would take pieces of bread thrown into the stream when people were standing within two yards of it.

As the Water-Rail is recorded by observers as more or less common in winter throughout North Wales in suitable country, only those details are given below which have a bearing upon its status as a breeding species.

ANGLESEY. Holyhead, seen in August (Edwards). Seen in west Anglesey whilst shooting in August (Marshall) and on Penrhyn lakes, middle of May, 1902 (Forrest). Several on marsh Rhydwn 22nd September, 1907 (Shankland).

CARNAEVON. Common Nanhoron ; keeper says it nests there (Lloyd Edwards). Flushed repeatedly in marsh near Llangian June, 1905 ; probably nesting (Savage).

DENBIGH AND FLINT. Shot several on Clwyd River and twice taken eggs (Rogers). Seen in winter Denbigh and believe it breeds (Congreve) Nantffrith, Wrexham (Kyrke). About Ellesmere it is called " Water Weasel " (Forrest).

MERIONETH. Frequent in winter Dovey Estuary, where many are obtained in shooting season ; doubtless a common resident (Salter).

MONTGOMERY. Common in winter Welshpool ; said to breed Buttington (Butterfield). Seen in summer as well as winter, Marrington ; young female shot at Gunley in 1901, probably bred there (Horwood).

175.—BAILLON'S CRAKE. *Porzana bailloni* (Vieillot).

Obtained once only, near Conway Estuary.

A rare straggler to western Britain, this species has only once been recorded for North Wales. On 6th November, 1905, an example was caught by a dog in a ditch at Llangwstenin on the borders of Denbigh and Carnarvonshire, and was submitted in the flesh to Dr. W. B. Russell of Colwyn Bay, by its owner, Mr. Flower. The bird, apparently a male, measured over seven inches in length. (Cf. *Zoologist*, 1905, 465.)

176.—SPOTTED CRAKE. *Porzana maruetta* (Leach).

RHEGAN FANNOG = Spotted Crake.

Occurs in autumn and winter; rather rare and irregular visitor.

In North Wales the Spotted Crake is most frequently met with on the autumn migration and as late as December, but it appears to have occurred only once in spring; and no nest has ever been found. Indeed, it cannot be regarded otherwise than as a rather rare and irregular visitor, though, of course, many of those that come escape recognition owing to their skulking habits. The species has been recorded most frequently in the eastern half of the district, and on the west coast of Merioneth.

ANGLESEY. Holyhead, one killed about 1850, in August I believe (Marshall). A Mr. Eyre, staying at Valley Hotel, shot one or two some years back (Edwards). One was obtained near Valley end of October, 1904 (Coward and Oldham). One shot Rhosneigr 14th September, 1907 (E. W. H. Blagg).

CARNARVON. One killed near Criccieth about 1894 (Priestley). Seen in marsh near Llangian 14th September, 1904; one seen there August, 1906 (Savage).

DENBIGH AND FLINT. Obtained at Nantyffrith, Wrexham, Maesmor, Corwen, Mold and Talacre (Dobie's list), Pantglas, 1879 (Wynn). One shot in Rhuddlan Marsh 1901; one killed against telegraph wires about 1st November, 1904 (Rogers). Shot one whilst snipe-shooting at Nantyffrith; another killed by a friend in November or December (Kyrke). One killed against telegraph wires about 1890 on Dee Estuary; a second obtained since in same district (Brooke). Three shot Hoylake autumn, 1852, also Kirby Moss (Byerley *Fauna of Liverpool*). One killed against telegraph wires, Colwyn Bay, 7th May, 1907 (Russell).

MERIONETH. Barmouth, a few shot every autumn (Rawlings). Six killed on Dovey Estuary, last in winter 1902-3; two young birds shot Ynyshir, probably bred there (Feilden). One at Towyn (Robinson). Shot two at Llanelltyd; one stuffed (Bailey). One shot on moor north of Barmouth in August, 1904 (Evan B. Jones).

MONTGOMERY. Three in "beautiful plumage" received from the neighbourhood of Welshpool in October, 1874 (John Shaw in *Field*, 30th October, 1874). One shot by keeper on Sir Watkin Wynn's estate near Llanbryn-mair 21st October, 1889 (*Bygones*, 1889, 290). One seen Llansantffraid in July, 1905 (Kempster).

177.—MOOR-HEN. *Gallinula chloropus* (Linn.).

IAR DDWR = Water-Hen.

Resident, common everywhere in suitable country.

The Moor-Hen or Water-Hen is so common and generally distributed in North Wales that details are unnecessary. It mostly frequents ponds and marshy places, though it is also met with on small streams, but as a rule it prefers the smaller sheets of water. Abundant in the lowlands, it becomes less numerous with increasing altitude, but is met with amongst the hills up to 600 or 700 feet, or perhaps a little higher. It appears to migrate occasionally in autumn, for one was killed at the Dee L.V. lantern, 3rd September, 1886, and another at the Skerries, 16th November, 1887. Mr. F. T. Feilden obtained an example of the "hairy" variety on the Dovey Estuary in 1899,* and a "pale brownish" variety was obtained near Beaumaris in 1862.† I have seen remains of Moor-Hens at Peregrines' eyries in Anglesey. Mr. O. V. Aplin once found a nest in west Merioneth in a big tuft of rushes which had been flooded by a high tide.

[PURPLE GALLINULE. *Porphyrio cæruleus* (Vand.).

One was caught by some boys on the canal bank at Overton-on-Dee, about the middle of April, 1901; it was taken to

* Salter, *Zoologist*, 1902, 1. Cf. Forrest, *Zoologist*, 1901, 108.

† R.L. in *Field*, 21st August, 1862.

Lord Kenyon's aviaries at Gredington, where it lived for more than twelve months. Another specimen was shot in almost the same spot on 20th May, 1903. None are known to have been kept anywhere in that part of the country, or to have escaped from confinement.]

178.—COOT. *Fulica atra* Linn.

CWTIAR = Short-tailed Hen; IAR DDWR FOEL = Bald Water-Hen; CORSHWYAD DDU = Black Marsh-Duck.

Resident; irregularly distributed throughout the district. Occurs on the sea in winter.

The Coot is found on most of the larger sheets of water in all the six counties of North Wales, chiefly in the lowlands. It occurs throughout Anglesey, but elsewhere is distributed somewhat irregularly. Although most numerous in the lowlands it frequents many of the llyn amongst the mountains, such as Bala, Tal-y-llyn, Gwynant, and the Llanberis lakes, breeding in all these localities. Many observers record it as resorting to salt-water in winter, especially in severe weather; whilst others have noted it on some of the more extensive salt marshes. John Price observed it at Llandudno "flying out to sea." *

In some inland localities the Coot seems to have established itself as a breeding species comparatively recently; the first nest at Llandderfel was observed by Mr. Ruddy in May, 1894, while another nest with six young birds was found some distance off the same year. He noted that the male bird, to escape observation, submerged itself all but the head, remaining thus for a long time.

* Dobie's list.

179.—GREAT BUSTARD. *Otis tarda* Linn.

Very rare ; recorded twice many years ago.

John Williams in his *Faunula Grustensis*, 1830, stated that the Great Bustard had been "shot a few years ago" near Llanrwst. In the Report of the Parliamentary *Commission on Land in Wales* there is a statement to the effect that a pair of Great Bustards was shot by Mr. Thos. Gill at Llanwddyn, a great many years ago. In connection with these statements it may be mentioned that in 1826 a pair of these birds was seen on the Longmynd in Shropshire.* Mr. E. W. Kirkby informs me that his father shot a Great Bustard in 1865 on Dolangwyn Mountain, near Towyn. It was, unfortunately, not preserved.

180.—LITTLE BUSTARD. *Otis tetrax* Linn.

Very rare, recorded in Anglesey only.

In the Report of the *Commission on Land in Wales* Mr. A. B. Priestley states that he believes that two Little Bustards had been shot in Anglesey. In the *Field*, 20th December, 1884, Mr. Walpole E. Eyre records a Little Bustard shot in a turnip field in Anglesey on 9th December, 1884. In a letter he informs me that this was at Llanbabo, Anglesey.

181.—STONE-CURLEW. *Edicnemus scolopax* (S.G. Gmelin).

Obtained in Merioneth and on the Dee Estuary.

On the 6th January, 1903, an example of this bird was killed at Llanfendigaid, near Towyn, by Capt. D. W. Kirkby, to

* Forrest, *Fauna of Shropshire*, 157.

whom I am indebted for particulars. The weather at the time was very cold, and the wind blowing from the south-east. The Stone-Curlew was first seen in a turnip field, apparently feeding. It flew thence into a grass field near by. When again flushed it got up whistling, and was shot as it flew swiftly away. I subsequently had the pleasure of examining the bird at Mr. Hutchings', taxidermist, Aberystwyth; it is an adult. Byerley, in his *Fauna of Liverpool*, mentions that the Norfolk Plover is "said to have been seen on the Hoylake shore" on the Dee Estuary. Mr. Victor Wilson informs me that he has a female which he shot at West Kirby, in the same district, 12th September, 1898.

182.—CREAM-COLOURED COURSER. *Cursorius gallicus*.
(J. F. Gmelin).

Recorded twice.

Col. Montagu, in his *Ornithological Dictionary*, writes:—"We are assured by Mr. Dickinson that a specimen of this very rare bird was shot in North Wales in the year 1793 by Mr. George Kingstone of Queen's College, Oxford, a very accurate ornithologist. The bird was preserved in the collection of the late Professor Sibthorp." In the *Field*, 16th October, 1886, and in the *Zoologist*, 1887, 269, is a record of a specimen shot on the Dovey Estuary in October, 1886, by a son of Mr. J. Hooton, Kersal Towers, Higher Broughton. This gentleman (now Captain Hooton) informs me in a letter (5th April, 1901) that the skin is still in his possession.

183.—RINGED PLOVER. *Ægialitis hiaticula* (Linn.).

HUTAN Y MOR = Sea-Dotterel; CORNICYLL CADWYNOG = Ringed Plover; CWTYN MODRWYOG = Ringed Plover; BRONDDU'R TWYNAU = Black-breast of the sand-hills; MOR HEDYDD = Sea-Lark.

Resident, common on all flat parts of the coast; very rare inland.

This pretty and interesting little bird is common on the coast

everywhere. It shows a decided preference for flat shores consisting of a mixture of sand and pebbles, but even on rocky and precipitous coasts it may be seen, here and there, in small numbers. It is perhaps most numerous round Cardigan Bay and on the west coast of Anglesey, and may be met with all the year round—in pairs during the breeding season and in small parties at other times. Inland it can only be regarded as a rare straggler, but Mr. J. A. Bucknill has seen a specimen that was shot on Llyn Diwannedd, near Capel Curig, whilst Mr. T. Ruddy records one seen on the Dee at Llandderfel, 8th May, 1903.

It is in connection with its nesting habits that the most characteristic traits of the Ringed Plover are observed. The four pear-shaped eggs, stone-coloured with dark specks, are deposited generally on the sand where pebbles are scattered around, but they are often found on shingle where there is no sand, as well as on soft sand where there is no shingle—never on firm sand, however. Now and then the bird will lay on turf near the sea. In May, 1902, I saw a nest of this description on the side of the Artro Estuary at Mochras; it was on quite short grass, and was lined with bits of driftwood of which many had been left stranded by some very high tide. This nest was fairly conspicuous, but generally the eggs so closely resemble their surroundings that a novice has great difficulty in finding them.

When the Ringed Plover deposits its eggs on loose sand they will be found at the bottom of a cup with raised walls of sand. It might be thought that the bird formed this cup itself, but I believe it is produced quite mechanically. The eggs are laid on the sand and there are no walls of sand at first; as soon, however as the bird begins to sit, the loose sand drifts up against her and is held by the feathers, thus forming a wall fitting exactly to the shape of her body. The amount of lining varies a good deal. In loose sand there is often no lining at all, whilst in other instances there are a few bits of shell or flat stones. When the eggs are laid on a shore consisting of mixed sand and pebbles, the nest is

generally lined with bits of shell and flat stones; when on a pebble ridge there is no lining whatever. A nest on turf, lined with driftwood, has already been mentioned. The eggs are laid from the second week of April onwards, and I have several times found fresh eggs in June. These were doubtless second layings as the Ringed Plover is very frequently double-brooded if unmolested. Mr. Cummings has seen newly-hatched young in mid-July. In April, 1905, I found many nests containing the full clutch of four eggs by 21st; one set was near hatching, so that incubation must have commenced very early in the month.

Mr. Cummings feels sure that the species breeds on the shores of Llyn Geirian in north Anglesey, a lake at no great distance from the sea, but far enough to be described as inland.* On 20th May, 1904, Rev. F. C. R. Jourdain observed a pair apparently nesting on the River Conway at Tal-y-cafn; this also is inland.

Two of the small migratory race were noted by Messrs. Coward and Oldham at Rhosneigr, 6th June, 1904, and a number by Mr. Coward in April, 1905.† Mr. Oldham informs me that he has also seen large numbers on the Dee Estuary in May.

184.—GOLDEN PLOVER. *Charadrius pluvialis* Linn.

CHWILGORN Y MYNYDD = Mountain-Plover; CORNICYLL Y MYNYDD = Mountain-Plover; CWTIAD OR CWTYN AUR = Golden Plover.

Occurs in flocks autumn and spring; often numerous; many breed on the moors.

The Golden Plover is well-known as a winter visitor to all parts of the district, often in large flocks. Little, however, has been recorded as to its status as a breeding species in North Wales. Eyton and A. G. More thought that it probably nested on the moors, but they seem to have had no

* *Zoologist*, 1905, 218.

† *Id.*, 1905, 423.

definite information on the subject. In the *Zoologist*, 1873, 3410, Mr. W. J. Kerr writes of the Golden Plover as breeding in numbers on all the moors round Corwen: "A few are found on the hills all the year round, but the greater part seem to leave for the sea coast for a few months after the breeding season, returning, however, before winter, and frequenting the large pasture fields. Should the winter prove severe they again return to the coast until it becomes milder, when they are again to be found with us."

Reports from lighthouses show that small parties sometimes appear on Bardsey, St. Tudwal's, the Skerries, and Puffin Island from September to February—a flock on the last named on 12th October, 1885.*

In the notes below only those records are given which bear upon the status of the Golden Plover in the breeding season. From these it will be seen that at that period the bird is most numerous on the moors around Bala and Corwen, though it is found in smaller numbers in other suitable districts. In Llyn and Anglesey, as well as all along the north coast, the Golden Plover is known only as a winter visitor, whilst but few nest in Montgomeryshire.

It appears to be rather an early breeder, since several observers record eggs in an advanced state of incubation at the beginning of May, and newly-hatched young were found on Moel Siabod by Mr. R. W. Calvert, 18th May, 1906. Mr. Wm. Congreve has found eggs near Denbigh as early as 23rd April, 1901.

In June, 1900, I found several pairs breeding near the top of Aran Mawddwy at an elevation of nearly 3000 feet.

When disturbed at the nesting haunt the birds keep taking short flights from point to point round the intruder, uttering a soft plaintive note, and skimming along close to the ground. Less aggressive than the Peewit under similar circumstances, they betray anxiety rather than anger, and they never swoop at one's head nor rise high in the air. The intense black of the underparts is very noticeable at such times.

* *B.A. Migration Report*, 1885.

Wm. Borrer, in the *Birds of Sussex*, writes: "In the year 1837, while travelling in Wales, I found several pairs on the summit of Cader Berwyn. . . . After watching patiently for about an hour, I saw a bird alight not far from me, and after running a short distance . . . it settled down on the nest, which contained four eggs. Soon afterwards I accidentally fell in with three more nests, all with the same number of eggs."

ANGLESFY. Flocks in winter (all observers). Obtained once in August (Clulow).

CARNARVON. Bettws-y-coed, obtained in summer plumage (Foster), breeds Capel Curig (Calvert), four on top of Moel Siabod, 8th October, 1905—late to stay so high (Oldham).

DENBIGH AND FLINT. Several pairs on moors, Pentre Voelas, end of May, 1904, apparently had young (Oldham). Breeds on moors around Denbigh (Congreve and Cummings), Nantffrith (Kyrke), Llangollen (Duncalfe, Owen and Ruddy), Chirk (Eyton), Minera (Dobie's list), Corwen (Kerr, *supra*) and Llanarmon D.C. (Meares). Many on Sealand till late April, 1903; full breeding dress (Cummings).

MERIONETH. Common from March to end of October on moors above Llandderfel, and breeds there (Ruddy), also on the Aran Range (Forrest) and on moors above Bala (Burton), Barmouth (Rawlings and Roberts), Dolgelley (Bailey) and Dinas Mawddwy (Buckley), Cwm Prysor and Rhinog Fawr (Duncalfe) and other moors in the west; more numerous in the east (Aplin).

MONTGOMERY. A few pairs breed on Plynlimmon (Lewis and Salter). Noted in April and August Llanllugan (Lort), Llanwddyn (C. Wilson) and on 5th April, 1907, Welshpool (Harrison).

185.—GREY PLOVER. *Squatarola helvetica* (Linn.).

CORNICYLL LLWYD = Grey Plover; CORNICYLL Y GWYNT = Wind-Plover; CWTIAD or CWTYN LLWYD = Grey Plover.

Occurs between August and May on the coasts and estuaries, generally in small parties.

The Grey Plover closely resembles the Golden Plover in most



ON THE MOUNTAINS, MERIONETH—Haunt of the Golden Plover.

Photographed by J. FRANKLIN.]

[To face page 328.]

respects except colour, being silvery-grey where that bird is yellow; but the easiest method of distinguishing the two when met with on the coast is to note the colour of the axillaries as seen in flight. In the Golden Plover these are white; in the Grey Plover, black, whilst its under-tail-coverts are white.

In North Wales it is never met with in large flocks like the Golden Plover, but generally in parties of a dozen or less, and that only on the shore—it never goes inland at all, except perhaps for a few miles up one of the estuaries. Needless to add, it does not breed here—the species leaves our shores for the north before the end of May.

The late Dr. Moses, of St. Asaph, writes in his diary *apropos* of the Grey Plovers shot by him at Rhyl: "This is one of the wildest and most wary of British birds, seldom suffering the sportsman to approach within two or three hundred yards; it whistles when taking wing, and wheels out to sea."

ANGLESEY. Occasional in winter Rhosneigr (Long), Aberffraw (Gosling); small flock Llangwyfan Bay winter 1900-1 (R. D. Williams); occurs Malldraeth Estuary (Priestley). Holyhead, rare in winter on shore (Clulow); a few shot there (Edwards); specimen from thence winter 1838-9 (Eyton). Occasional Menai Straits (Humphreys). Common there (Martin's *Wanderings in Wales*, 1864). One Cymmeran 28th and two Llangwyfan 29th September, 1904 (Cummings).

CARNAEVON. Two shot on River Conway, 1894, and two below Deganwy, 1904-5 (Hutchinson). Winter visitor to the shore between Pwllheli and Portmadoc, not numerous; most partial to those parts of the coast that are covered with boulders and seaweed as at Afonwen (Haigh). Occurs on coast about Portmadoc (Evan B. Jones).

DENBIGH AND FLINT. A few every winter on Dee Estuary (Brockholes); a number shot on north side in autumn, 1887; one shot Colwyn Bay September, 1887; frequently shot at Talacre; noted at Abergele (Dobie's list). On Dee Estuary rather rare (Congreve); occurs there in parties in September and October; an occasional *one* at other times (Brooke). St. Asaph, one shot years ago (Rogers). Sometimes common on Dee Estuary (Wrigley). Often shot Burton marshes (V.

Wilson). Two shot out of small flock at Rhyl 6th January 1840 (Moses MS.—see above).

MERIONETH. Winter visitor Mochras, remaining till May (Haigh). One seen there 13th April and four 11th May, 1902 (Moore). One seen there 30th May, 1904, with fair black patch on breast (Aplin). Barmouth, occurs in limited numbers in winter (Rawlings); killed one there (Buckley). Occurs TOWN (Kirkby); obtained there (H. Franklin). Aberdovey, seen many and shot them in October (Kershaw). Common Dovey Estuary (Feilden), but visits in decreasing numbers, generally end of August or beginning of September (Salter); noted there in 1897 (Thring).

MONTGOMERY. No authentic record.

186.—**DOTTEREL.** *Eudromias morinellus* (Linn.).

HUTAN = Stupid.

Occurs sparingly on the mountains in spring; rarely in autumn; has also been met with on land reclaimed from the Dee Estuary.

The Dotterel has not very often been recorded in North Wales, but as it occurs only on passage, and then mainly on the sparsely-inhabited mountains, it is possible that it often escapes notice. Dr. W. H. Dobie mentions one seen many years ago at Cerrig-y-druidion. Mr. G. H. Caton Haigh tells me that it visits some of the higher mountains such as Llethr, Mynydd Mawr, and Moel Hebog occasionally in May, whilst he has heard of it also on the autumn passage. Mr. J. A. Bucknill was told of several Dotterel being observed on the Benar moor, near Dolwyddelan, in the spring of 1896,* and Mr. W. B. Halhed informs me that he has met with them more than once in the same district at elevations not under 1000 feet. Mr. A. B. Priestley reports having seen Dotterel on a mountain top, near Penrhyndeudraeth, in July, 1871—a very late date.

In the *Ibis*, 1901, Mr. O. V. Aplin records seeing four Dotterel on the top of Cader Idris on 10th May, 1901, whilst on the 8th May, 1902, he saw four others near

* *Ornithologist*, 1896, 136.

the same place. He adds: "The very tameness of Dotterel is a protection to them, for it would be quite easy to pass within a few yards without their moving. Brilliant as is the colouring of a full-plumaged Dotterel, when they are quite still among the browns and greys of a mountain-top they are really very inconspicuous I think the fact of our finding Dotterel on the same mountain early in May in two successive years points to the probability that they are regular visitors to the Cambrian mountains on their passage northwards in spring; it is, of course, just possible that they may breed on some of the tops."* Further south, just beyond our limit, Professor Salter records one shot near Aberystwyth. A party of fifteen was observed by Mr. S. G. Cummings† on 8th May, 1903, in a field off the Sealand Road, near Chester, but north of the estuary, and politically in Flintshire. Mr. Victor Wilson states that he has an example obtained on the Dee Estuary, near Heswall; whilst Byerley, in his *Fauna of Liverpool*, says that a few used to occur every spring on the north side of the Dee Estuary. John Price, in his *Llandudno Guide* (p. 87), records a "trip" of adult Dotterel on Carnedd Llewellyn about 1820.

187.—LAPWING. *Vanellus vulgaris* Bechstein.

‡CORNICYLL (*f.* CORNICELL) = Plover; ‡CORNSHWIGLEN = Plover; ‡CORN Y WICH = Squeal-horn; CORNOR Y GWEUNYDD = Chief of the Meadow; CORNICYLL Y WAEN = Meadow-Plover; CORNICYLL Y GORS = Marsh-Plover; §GWAI FI = "Woe is me."

Resident; very common, not only on lowlands, but on moors and hillsides.

The Lapwing or Peewit is numerous in all parts of North

* *Ibis*, 1903, 135.

† *Zoologist*, 1903.

‡ The word Corn (= horn) alludes to the pointed crest on the head.

§ This is the Welsh idea of the bird's cry. In English it is written as "Peewit."

Wales, and is found breeding in small numbers up to an elevation of even 2000 feet on the mountains and moors. These heights, however, are deserted during the winter months, when the Lapwings resort to the coasts and estuaries, or to lowland meadows, often in vast flocks. In very severe weather they often move down to the west coast, seeming to know instinctively that it is warmer there than elsewhere. At such times they also resort to the salt marshes to feed, as these are open when the ground elsewhere is frozen hard. Several were seen flying round the lantern of the Skerries lighthouse at midnight, 15th January, 1882.* A considerable number of Peewits remain to breed by the sea, placing their nests on the turf just above, or occasionally even upon, the shore. In May, 1901, Mr. A. R. Horwood found numbers in such situations at Criccieth (five eggs in one nest), and he remarked that in these instances the birds did not come flying round the intruder, but never appeared at all, though the fact that in some cases the eggs were quite warm showed that the sitting bird had but recently quitted the nest. I have observed the same thing under similar circumstances in west Anglesey. On 10th June, 1904, Mr. H. G. Attlee found a nest with fresh eggs at Llanaber. In Wales the Peewit shows a predilection for nesting just behind sandhills and in boggy places.

Mr. Ruddy has two light blue eggs, with a few brown spots round the larger end, found at Llandderfel, 2nd May, 1903.

Messrs. Coward and Oldham observed a Lapwing in north Anglesey not only pretend to be crippled in order to decoy them from its young, but "lamely struggle down the ridge towards the channel of the stream, a gutter six yards wide, enter the water, and swim laboriously across, holding one wing elevated. The bird appeared to be hopelessly crippled. Reaching the far bank, it walked slowly up the mud, every few yards repeating the epileptic leaps and falls, until, some yards away, it discontinued its simulated disability and rose on the wing."†

* *B.A. Migration Reports*, 1882.

† *Zoologist*, 1904, 14.

In April, 1904, I saw at Hutchings', Aberystwyth, a very pretty pied Peewit, pure white except the primaries and part of the wing coverts which were black.

188.—TURNSTONE. *Streptilas interpres* (Linn.).

*HUTAN Y MOR = Sea-Dotterel.

Not uncommon on the west coast in autumn and spring, some remaining as late as June; rarer on the north coast.

Eyton describes the Turnstone as common on the Anglesey coast, but does not mention it as occurring elsewhere in North Wales.

Inchbald writes of the Llandudno district:† “These birds are seen on our shores in small flocks, often consorting with the Sanderlings and small Plovers. They may be noticed from August, throughout the winter, till May, when they have to go northwards to breed. They feed on the smaller Crustaceans, which they not only pick up on the shore, but search for beneath stones, turning the same over with their wedge-shaped bills—hence the name ‘Turnstone.’” They also frequently feed amongst seaweed, especially at the water’s edge, where the seaweed gets turned over by the incoming tide.

Dr. Moses, in his diary, remarks of a small party that went inland as far as St. Asaph, “The birds, particularly when on the wing, have a pretty mottled appearance; they utter a sharp twitter when flying, not unlike a flock of linnets, only fuller.”

The Turnstone is a regular visitor to the coasts of North Wales in autumn and spring, at which times it is usually seen in small parties of half-a-dozen or so—never in large

* This Welsh name is also applied to the Ringed Plover.

† Williams’ *Llandudno Guide*, 1861.

flocks. Some remain through May and into June, by which time they have often assumed full breeding dress, but these late birds are either solitary or only two or three together. Mr. Caton Haigh saw one near Penrhyndeudraeth as late as 27th June, 1894, whilst in 1903 Mr. H. G. Attlee records one just a month later—possibly a returning migrant. As the return migration commences in August, there is a period of scarcely two months during which the Turnstone is absent from our shores. Except for occasional trips for a few miles up the estuaries, this species has never been known to occur inland in North Wales.

189.—OYSTER-CATCHER. *Hæmatopus ostralegus* Linn.

PIODEN, or PIOGEN Y MÔR = Sea-Pie; BILCOCH (Criccieth) = Red Bill; SAER (Bardsey) = Artificer; TWM PIB = Tom Pipe; WSTRYSWR = Oyster-Catcher; LLYMARCHOG = Oyster-Catcher.

Resident, common on the coasts; flocks in winter; very rare inland.

This handsome bird is common on all parts of the coast frequented by the Ringed Plover, so that both species may generally be seen at once. The distribution of the Oyster-Catcher, however, is more general than that of the Ringed Plover, because it frequents not only the flat, sandy, and shingly parts of the coast, but also the rocky parts, especially where these have flat shelves or some kind of beach at the foot of the cliffs. A pair or two will often tenant a detached rock off shore, whilst most of the islands around North Wales are thus occupied. During winter the Oyster-Catcher associates in large flocks in the Portmadoc district. Mr. Caton Haigh says very large flocks appear in winter, remaining till May. On 10th April, 1900, I saw two flocks of perhaps 200 in each, on the Dovey Estuary, and Mr. V.



THE DOVEY ESTUARY—A Notable Resort of Waterfowl.

Photographed by F. S. JACKSON.

[To face page 334.]

Wilson has seen flocks numbering several hundreds on the Dee Estuary.

At times there seem to be local migratory movements amongst these birds. In 1887 flocks were noted passing the Dee L.V. all day long on 19th August, and 16th and 17th October.

To some slight extent the gregarious habit is observable even during the breeding season, as it is quite usual to find two or three pairs breeding in fairly close proximity on some favourite stretch of shingly beach. In such places the Oyster-Catcher often makes no nest whatever, but places its eggs in some slight hollow amongst the stones. Not infrequently the eggs are laid on rocks, and in these cases they often, though not always, repose on a layer of thin flakes of stone or bits of shells; the amount of this lining varies considerably in different instances. With reference to the Welsh name "Saer," applied to the Oyster-Catcher in Bardsey, Mr. O. V. Aplin surmises that it refers to the curious nests which this bird *sometimes* builds; he has found nests with a great deal of material in them.

I have never known the Oyster-Catcher to deposit its eggs on pure sand, nor on turf, as the Ringed Plover does, but Mr. Cummings reports that he has frequently seen nests on turf amongst sandhills in Anglesey and Carnarvonshire, at some distance from the water, whilst in June, 1905, the Rev. E. U. Savage found three nests on rocks on St. Tudwal's Island, each built with a considerable amount of *grass*: one nest also contained a gull's feather.

The number of eggs is usually three, but the bird will sometimes sit on only two, whilst four are a not uncommon clutch—I have found several such, and others have been noted by Mr. S. G. Cummings, A. R. Horwood, and others. It has been suggested that these may be the product of two hens laying together, but the similarity of the eggs proves otherwise. The eggs vary little in shape or colour, but greatly in the size and form of the dark markings. In the most usual type these marks are small, irregular spots,

distributed evenly over the whole surface; in another type they take the form of long, irregular scrawls chiefly at the larger end; whilst in yet another they are big shapeless blotches, mostly on one side of the egg.

Breeding commences at the end of April, but is not general till the middle of May, and I found a clutch of four perfectly fresh eggs on St. Tudwal's, 13th June, 1902. Whether the Oyster-Catcher ever has two broods in the season does not appear to have been ascertained, but most probably it never has more than one. Seeing that May is the chief breeding month, the fact that many remain in flocks throughout that month (although, of course, in smaller numbers than earlier in the season) seems to indicate that there are always a good many non-breeding birds.

Dr. Moses writes in his diary (1840):—"Flocks frequent the Rhyl shore in winter; at this season they are remarkably shy and wary; during the breeding season, however, they are bold in their approaches and may be decoyed within a few yards of the sportsman by imitating their whistle." Other writers also allude to their wariness when in flock, one adding that the species "is extraordinarily tenacious of life and when shot bleeds like a pig."*

Ray, in his *Third Itinerary* mentions the Oyster-Catcher as breeding on Bardsey.

Eyton writes:—"A remarkable change in the form of the bill takes place in the young of this species during its progress to maturity: on leaving the egg the bill is not very unlike that of the Golden Plover and is well adapted for picking up minute insects and mollusca, at that time its natural food; indeed, had it the perfect wedge-shaped bill of the adult, the strength necessary to divide, as it were, the limpet from the rock would be wanting."

The young of the Oyster-Catcher, like those of other allied species, when approached usually try to escape detection by lying still and prone. I have known them to do this when quite half-grown.

* Martin's *Wanderings in Wales*, 1864.

In other parts of Britain the Oyster-Catcher is said to go inland pretty frequently, and even to breed occasionally at some distance from the sea. In North Wales, however, it very rarely goes inland at all except for a few miles up the estuaries. Mr. Horwood has seen birds on the River Dwyfor some distance inland, and found traces of a nest at Afonwen mere; whilst at Towyn on 11th December, 1906, Dr. S. Jackson watched a pair on a field, one of which dug up and devoured an earthworm. The only actual record, far inland, is a bird seen by Sir H. B. Robertson by the Dee, at Llandderfel, on Good Friday, 1895.

In Bull Bay, Anglesey, where the Oyster-Catcher breeds on the rocks, Mr. Cummings notes that the eggs are often taken by the Carrion-Crows.

Along the north coast of Wales the Oyster-Catcher is found breeding only as far to the east as Point of Air, or thereabouts; on the Dee Estuary it occurs in flocks chiefly in autumn and winter, and is often very numerous, especially in stormy weather.

The Rev. F. C. R. Jourdain records a pure white example which haunted the shore near Barmouth in May, 1898, whilst a similar bird was seen on the adjoining estuary by Mr. C. G. Beale in April, 1901, and by Mr. O. V. Aplin on 20th May, 1904; the same or another white example is reported by Mr. J. G. Lang and others as haunting the neighbourhood of Mochras in 1906-7.

190.—AVOCET. *Recurvirostra avocetta* Linn.

Said to have occurred in Anglesey and Merioneth.

In the report of the Parliamentary *Commission on Land in Wales*, Mr. A. B. Priestley states, in reference to the Avocet, that he "believes it has been killed in Anglesey." Mr. E. Gosling informed me that he saw one about 1875 at Llangwyfan, Anglesey, watching it for some time through a

field-glass at a distance of about one hundred and fifty yards. He was confident that he made no mistake as to the bird's identity. Captain Bailey, of Dolgelley, also informed me, in 1901, that he had seen an Avocet on the marsh below Llanelltyd. He, with some friends, got near enough to the bird to identify it, but he did not attempt to shoot it.

191.—BLACK-WINGED STILT. *Himantopus candidus*
Bonnaterre.

Recorded in Anglesey.

Colonel Montagu, in his *Ornithological Dictionary*, records, under the head of Black-winged Stilt, "a bird of this rare species was shot in Anglesey in the year 1793, an account of which was related in the *Naturalists' Miscellany* as received from Mr. (Rev. Hugh) Davies, of Aber."

192.—GREY PHALAROPE. *Phalaropus fulicarius* (Linn.).

PIBYDD LLYDANDROED = Broad-footed Piper.

Occasional visitor, not uncommon ; occurs chiefly on the autumn passage.

This species is not recorded in North Wales by Eyton nor any of the older writers on the local fauna. Whether it occurs in the Llandudno district is even now doubtful, though as it is met with elsewhere on the north coast, both to the east and west, it may reasonably be expected to visit there also. The same may be said of Montgomeryshire, since the Grey Phalarope is of frequent occurrence in Shropshire and West Merioneth. Speaking of the Dovey Estuary and the surrounding country, Professor Salter states that it occurs in autumn when driven out of its course while on passage. No less than seventeen were obtained during rough weather

between 15th and 24th October, 1891, whilst in December the same year several were shot near Bala. At Barmouth it is noted commonly on the autumn migration, whilst at Penrhyndeudraeth it has been noted several times by Mr. G. H. Caton Haigh, who shot one near Talsarnau, and saw one on the Traeth Bach, 27th November, 1893. On 27th June, 1897, he saw one on the water off Trwyn-y-Penrhyn; it was in perfect breeding plumage, and he watched it for some time till it rose and flew away northwards at a great height, up the Traeth Mawr. The only inland district in which the Grey Phalarope appears to be frequent is the Upper Dee Valley, between Llangollen and Bala. This species was numerous all over the country in the autumn of 1870.*

ANGLESEY. Seen Aberffraw (Gosling).

CARNARVON. Has occurred several times about Bangor (Lort).

DENBIGH AND FLINT. Occasional in winter on the marshes and the Dee Estuary (Brockholes). A number obtained on the coast and inland in October, 1891 (Dobie's list). Frequently met with on the Dee between Llangollen and Corwen (Ruddy). Specimen at Rûg, obtained at Ruthin (Wynn). One shot near Corwen August, 1872 (W. J. Kerr, *Zoologist*, 1873, 3410). One or two shot on the Dee Estuary by F. N. Congreve some years ago (Congreve). One stuffed, obtained there (Brooke). One swimming about on the Dee at Llangollen 1st January, 1907 (Ruddy).

MERIONETH. Frequent in autumn, Palè; several shot near Bala in December, 1891 (Ruddy); obtained occasionally on Dovey Estuary (Captain Hooton, *in lit.*, 7th October, 1901); one obtained there (Feilden), frequent; one shot in a pit during a gale (Kershaw). Barmouth, noted commonly on the autumn migration (Rawlings). Penrhyndeudraeth, noted several times (Haigh).

MONTGOMERY. Not recorded, but probably occurs.

* *Zoologist*, 1873, 3410, etc.

193.—RED-NECKED PHALAROPE. *Phalaropus hyperboreus* (Linn.).

Rare visitor, recorded three times in Anglesey and twice in Merioneth.

Mr. E. Gosling told me that he once saw a Red-necked Phalarope by a shallow pool at Llangwyfan, Anglesey. It was so tame that it allowed him to watch it within a distance of about ten yards. A specimen shot at Valley, Anglesey, 5th October, 1893, is recorded by W. M. Wilkinson in the *Zoologist* for that year, p. 428. On the 27th September, 1901, I examined at a Shrewsbury taxidermist's a nearly adult male that had been picked up at Towyn; it had evidently been dead some days. Subsequently I was shown another, which had also been obtained at Towyn in the autumn of 1902. In the *Zoologist*, 1902, p. 406, is an interesting account by Messrs. Coward and Oldham of an adult female which they observed on 5th and 6th June, 1902, on a shallow pool in Penmon Park, south-east Anglesey. They write:—"Although we approached it quite openly, the bird made no effort to elude us; in fact, it hardly seemed to notice our presence. So lightly did the bird rest upon the water that it looked as if a breath of wind would pick it up and blow it away; yet, though it generally swam head to wind against a stiff breeze, it appeared to experience no inconvenience when swimming in the opposite direction. The bird was busily feeding—dipping its beak constantly in the water, and now and then uttering a soft 'peep, peep.' After watching it for some time . . . we threw a stone into the water near it, as we wished to see it on the wing. The bird rose, hovered for a second a few inches above the water, and then flew off across the grass. In flight it somewhat resembled the Ringed Plover, and distinctly showed its white wing-bars. It was back again in a minute, and recommenced feeding. During the day we visited the pool several times, but we never again

succeeded in inducing it to fly; when disturbed by a splash it simply rose and hovered for a moment, dropping again a yard or so further on. It was an adult female, the rich fox-red of the neck contrasting sharply with the pure white chin and underparts, and the dark grey of the upper breast. The clearly defined white spot immediately above the eye was distinctly noticeable at a distance of some yards. This spot appears to have escaped the notice of many ornithologists, whose descriptions have been compiled from the examination of dried skins." The tameness alluded to above is characteristic, not only of the present species, but also of the Grey Phalarope. Both species undergo a great metamorphosis in regard to the colour of the plumage in winter and summer. In winter both are mainly grey above and white beneath; but in summer the underparts of the Grey Phalarope are a rich chestnut, whilst those of the Red-necked Phalarope are as described above.

194.—WOODCOCK. *Scolopax rusticula* Linn.

CYFFYLOG = Woodcock.

Common from autumn to spring; breeds sparingly in all counties except Anglesey.

Although familiar as a winter visitor, there seems to have been much uncertainty hitherto as to the extent to which the Woodcock is a resident species breeding in North Wales. Thus A. G. More marks it in his list as probably breeding in the district, but had no authority for the statement. The records below show indubitably that it has nested in all the counties except Anglesey, though as a breeding species the bird is, apparently, nowhere common.

About 1880 Mr. F. Rawdon Smith found a nest on the edge of a moor above Bala. He came across it whilst

shooting, and thought it looked like a Woodcock's, but the spot appearing rather an unusual one, he went up again early next morning and this time flushed the Woodcock from the nest, thus making its identity certain.

During the breeding season the male comes forth each evening about sunset, and flies to and fro over a certain course undeviatingly, uttering a deep snoring cry; this is known as "roding." Mr. W. J. Kerr records having heard this cry at Maesmor, near Corwen, on 2nd April, 1870.*

The Woodcock appears to have been much more plentiful in Denbighshire a century ago than at present, for an old sportsman, writing at the end of the eighteenth century† records "Game killed at Dyffryn Aled the first week in November, 1783—81 Woodcocks, 28 Hares, 5 Partridge"; and again in "1785—89 Cocks, 27 Hares, 5 Partridge, 1 Snipe, 1 Heron."

Pennant mentions a Woodcock killed near Holywell which weighed twenty ounces!

Woodcocks migrate by night; they have been recorded at the Dee light vessel, Bardsey, and the Skerries, usually in October, whilst Mr. R. J. Edwards tells me that they have often been observed by the coastguard at Holyhead coming in numbers together and settling on the mountain. They arrive from the west, probably from Ireland. On 14th August, 1904, Dr. Mills Roberts, of Llanberis, saw a Woodcock at that place; it seemed tired as if from a journey, though the date is an early one for an immigrant bird. As a migrant the Woodcock occurs in all six counties: the records below refer chiefly to its status during the breeding season.

ANGLESEY. One flushed near Beaumaris 7th June, 1905 (Coward, *Zoologist*, 1905, 424).

CARNARVON. Deganwy, seen in breeding season (Hague). Nest on Mr. J. W. Greaves' property near Carnarvon in 1901 (Lees).

DENBIGH AND FLINT. Seen in breeding season at Abergele and

* *Zoologist*, 1870, 2184. . † *Bygones*, 1891, 161.

unfledged young near Cilcain a few years ago (Dobie's list). Colwyn Bay, not uncommon, believed to breed (Russell). Brood hatched in Pool Park, Ruthin (G. Blezard, *Field*, 14th May, 1887), the gizzard of one killed near St. Asaph January, 1841, contained small pieces of beetles and earwigs (Moses MS.). Young bird killed Cefn Coch about 1890 (*Bygonas*, 1897, 178). Scarce, breeds Llanarmon, Mold (Morgan).

MERIONETH. Plentiful Barmouth in winter and believed to breed there (Rawlings). Nests in Hirnant Valley, Bala (Buckley), and pair nested Dolgelley in 1900 (Salter, *Zoologist*, 1902, 2). Flushed one near Carndochan Mine, Llanuwchllyn, summer 1901, certainly nesting (Davenport). Nests in Cwmbowydd, Ffestiniog (Martin). Egg in collection taken at Peniarth, near Towyn, in 1887 (Harries). Saw in cottage at Corris a cream-coloured var., obtained there 1898 (Forrest). Penrhyn-deudraeth, winter visitor not only in woods but on open mountain sides; seen as late as 3rd April (Haigh); one shot Nannau early August, 1891 (*Bygonas*, 1891, 161).

MONTGOMERY. Welshpool, numerous some winters; killed forty-eight one season; believed to breed on Kerry Hill; the late Mr. Trevor found a nest near Guilsfield (Harrison), almost sure it breeds here (Butterfield); eight killed in a day on Kerry Hill, where they stay all the year round (Fort). Plentiful Llanbrynmair—fifty couple in a season of late years—said to have been formerly even more numerous; used to be caught in horse-hair springs (W. Lester Smith). Mr. Lomax, Bodfach, Llanfyllin, has two local young stuffed (Buckley).

195.—GREAT SNIPE. *Gallinago major* (J. F. Gmelin).

CIACH FAWR = Great Snipe; SNID FWYAF = Greater Snipe.

Rare winter visitor, said to have occurred in all the counties.

Large examples of the Common Snipe are so frequently mistaken for the present much rarer species that it is necessary to receive with caution any records not substantiated by actual specimens. It will be noted that very few of the records given below are thus proved, so that the responsibility

for each statement rests on the respective authors. They are presented as being probably correct, but in most instances it has been found impracticable either to verify or disprove them. The Great Snipe is rather a larger bird than the Common Snipe, but can better be distinguished by its much paler coloration, more boldly marked underparts, and much larger amount of white in the tail feathers, which number sixteen instead of fourteen. A recent statement in the *Field* that a brood of young Great Snipe had been reared in Merioneth is unworthy of serious consideration.

ANGLESEY. One shot on Red Wharf Bay (Humphreys).

CARNARVON. Local specimen in possession of Mr. A. Foster, Bettws-y-coed, where I have examined it; he reports one or two others have been shot (Forrest). One shot near Bangor (Humphreys). Occasionally met with by the keeper on the Mostyn estate (Williams' *Llandudno Guide*, 1861).

DENBIGH AND FLINT. One at Maesmor, near Corwen, 8th September, 1870 (W. J. Kerr, *Zoologist*, 1870, 2345). Price noted one at Moel Cyfflog above Eglwysbach (Dobie's list), Llanrwst (*Faunula Grustensis*, 1830). Specimen in own possession shot at Plas-ucha, Denbighshire, about 1888 (Kirkby); one at Wynnstay in winter 1878-9 (*Bygones*, 1886, 70). Several at Hoylake (Byerley, *Fauna of Liverpool*).

MERIONETH. One obtained on Arennig in 1869 (Kerr, *Zoologist*, 1870, 2345). Mr. Evan B. Jones shot one at Ynysfor a few years ago (Haigh and Evan B. Jones). One near Penrhyn-deudraeth in 1876 (Priestley). An example in own possession, shot near Dolgelley 23rd August, 1906 (Beale). One specimen obtained Machynlleth, now in County School there (Lewis).

MONTGOMERY. Three shot Llanbrynmair during winter 1877-8 (*Bygones*, 1886, 70). Shot one on the hills above Marton Pool just inside the Montgomery boundary in December, 1898 (Williams, keeper, Leighton estate). One shot at Llanwddyn a few years ago (Buckley). Reported at Forden (Vize).

196.—COMMON SNIPE. *Gallinago coelestis* (Frenzel).

SNIPEN = Snipe; YSNITEN = Snipe; GIACH = Snipe; GIACH
MYNIAR = Peat-Hen; GAFF Y GORS = Goat of the Marsh.

Resident; common on bogs almost everywhere; more numerous in winter.

The Common Snipe is met with in boggy places both in the lowlands and on moors and mountain-sides to a very considerable elevation. Indeed, it seems rather to prefer situations of this last character, as in counties which contain both low and high lands it is most numerous on the elevated tracts. I have heard as many as five "drumming" at the same time over a boggy tract high up on the Berwyns. Roughly speaking, it is perhaps most common in the west. It is curious that A. G. More had no record of the Snipe nesting in North Wales, though he thought it probably bred there. As a matter of fact it nests in fair numbers in suitable localities throughout the district, though several observers record it as a decreasing species. During winter its numbers are increased by immigrants.

Snipe are met with occasionally by night at the light stations. In 1887 great numbers appeared on 16th February in north-west Merioneth, but only stayed a few days. One was killed at the South Stack, 4th August, 1885.*

Mr. L. F. Lort obtained an albino at Llanllugan in 1882. It was a young bird, which must have been reared in the district.

* *B.A. Migration Reports.*

197.—JACK SNIPE. *Gallinago gallinula* Linn.

MYNIAR LEIAF = Lesser Peat-Hen; YSNITEN FACH = Little Snipe; SNIPEN FACH = Little Snipe; YSNITEN LEIAF = Lesser Snipe.

Winter visitor; fairly common in most districts, especially in the west, but decreasing in some.

The Jack Snipe is not nearly so plentiful in North Wales as the Common Snipe. Mr. H. S. Davenport observed one near Bala in May, 1896; but it was solitary, and there was no indication that it was breeding.* Mr. J. Whitaker, when shooting at Vaynol, flushed a Jack Snipe on 26th August, 1902. One was shot in Montgomeryshire, 24th September, 1897 (*vide infra*); but, with these exceptions, the species is known exclusively as a winter visitor. It appears to be decidedly more common in the western than the eastern half of the district. On 23rd January, 1904, Mr. Laisters F. Lort shot five Jack Snipe and six full Snipe in some boggy land by a mill near Bangor—an unusually high proportion of the smaller to the larger species.

ANGLESEY. }
CARNARVON. } Fairly common in winter (many observers).

DENBIGH AND FLINT. Much less common than the Common Snipe in both counties and getting scarcer (Dobie's list). Common along Dee Estuary (Brooke and V. Wilson). Occurs St. Asaph (Wrigley). Nantffrith, rare now and was never common (Kyrke). Fairly common Denbigh (Congreve), Ruthin (Radcliffe and Steer), Rossett (Benden) and Llanarmon, Mold (Morgan); not common Llangollen (Ruddy).

MERIONETH. Fairly common in winter (all observers), probably numbers one to six of the Common Snipe (Haigh).

MONTGOMERY. Occurs in winter but not common (all observers). Carno, one shot as early as 24th September, 1877 (W. H. Adams, *Field*, 29th September, 1877).

* *Field*, 12th September, 1896.

198.—DUNLIN. *Tringa alpina* Linn.

PIBYDD RHUDDGOCH=Ruddy Piper; PIBYDD Y MAWN=Peat-Piper; LLYGAD YR YCH=Ox-Eye.

Common on flat coasts in autumn and winter, some remaining through the summer; breeds sparingly on the Denbigh and Merioneth moors, and formerly nested on the Dee marshes.

Eyton described the Dunlin as "common everywhere on the Welsh coast during summer, and often killed inland during the winter months." The actual status of the species in North Wales is almost the antithesis of this. It is common on all the flatter parts of the coast and on estuaries in autumn and winter, whilst in summer the numbers are far smaller, those seen then on the shore being non-breeding individuals, or birds on passage.

Inland a few pairs nest in scattered localities on the moors of Denbigh and Merioneth, but not nearly so many as might be expected. A. G. More thought the Dunlin bred in North Wales, but had no actual record of its doing so. Brockholes, however, mentions that several pairs nested on the Dee marshes in 1871; none are known to have bred there since, nor on any other lowland marshes in the district.

John Price remarks*: "The Dunlin goes to the moors to breed, as I saw in 1874 for the first time at Llyn Aled, where the little 'happy couples' were so tame as to go on poking their heads quite under water within ten yards of the fortunate observer."

About the end of May, 1904, Mr. C. Oldham observed several Dunlins which were evidently breeding in the peat bog between Llyn Aled and Llyn Alwen. One of the birds first drew his attention by its rippling love-song, uttered as it flew

* *Llandudno Guide*, p. 107.

overhead at a moderate height; it frequently sailed with outstretched drooping wings, and, besides the love-song, uttered another trisyllabic note on the wing. While he was watching it, another passed within a few yards of him. Another Dunlin was trilling in a bog about half-a-mile south-west of Llyn Alwen. Mr. T. A. Coward found a nest with eggs in the same district 26th May, 1906.

In Merioneth pairs have been observed, evidently nesting, on high ground above Penmaenpool, in 1900, by Mr. Oxley Graham, and on the moor above Llandderfel 12th May, 1902, by Sir Henry B. Robertson. Nests with eggs have been found near Trawsfynydd, 29th May, 1895, by Mr. H. S. Davenport, and on Arennig in 1904 by Mr. G. Haines, whilst the birds were seen near the same spot the following season by Mr. A. H. Duncalfe. Mr. O. V. Aplin also noted Dunlins in that district the same summer.

There is a local specimen in the collection at Leighton Hall, Welshpool. Several were shot out of a large flock on the moors above Bala, 16th August, 1882.

Many observers have noted Dunlins continuing to haunt the shores and estuaries up to the end of May, when the majority are in full breeding plumage; eventually these disappear, probably to nest further north.

The remarkable change which takes place in the plumage of the Dunlin between winter and summer—the breast being white in the former, black in the latter season—led the older naturalists to regard them as two distinct species. From entries in the diary of Dr. Moses it seems, however, that he discovered their identity. In the winter of 1839 there were immense flocks on the shore at Rhyl. In May, 1840, he shot one out of a considerable flock with the breast partially black, and others blacker between 1st and 8th June. Both sexes had black underparts, and one female was ready to lay eggs.

199.—LITTLE STINT. *Tringa minuta* Leisler.

PIBYDD LLEIAF = Lesser Piper; PIBYDD BACH Y TRAETH = Little Piper of the Shore.

Autumn and spring migrant met with occasionally on the coasts and estuaries.

Neither Eyton nor any of the old writers mention the Little Stint as occurring in North Wales, and it appears to be by no means common. Possibly it does occur pretty frequently but passes unnoticed, although its small size renders it easy of distinction from most other sandpipers. So far as can be gathered from the somewhat meagre records below, it chiefly affects the estuaries of the Dee and the Dovey; now and again it visits other flat coasts, but inland it is quite unknown. It occurs most frequently in autumn.

ANGLESEY. Holyhead, not very uncommon; seen several killed in August (Clulow); one shot near Maelog Lake by Mr. John H. Barsham in October, 1885 (*Field*, 17th October, 1885). Seen occasionally; one obtained out of small flock in Llangwyfan Bay (Gosling). In autumn, 1900, two brought in by a cat which frequently catches birds on shore, Aberffraw (R. D. Williams). Two in summer dress Rhosneigr, 28th April, 1905 (Coward, *Zoologist*, 1905, 424).

CARNARVON. Killed one at Criccieth in 1883 (Priestley). One found dead on the road between Llandudno and Deganwy a few years ago (Dobie's list).

DENBIGH AND FLINT. Dee Estuary, scarce in autumn and winter (Brockholes); shot two, one of them stuffed (Brooke). Met with occasionally, generally in stormy weather; two in Mr. F. L. Congreve's collection shot in 1898 (Congreve). Flock of a dozen or more, 1st September, 1892, three shot (Dobie's list); two obtained and others seen near Heswall, generally after gales (V. Wilson).

MERIONETH. Dovey Estuary, seen occasionally about end of September (Salter); three in collection shot there (Kershaw); five procured at different times (Feilden); a few procured

Barmouth (Rawlings); rare there (Roberts). Party of about twenty on Barmouth Estuary 5th May, 1905 (J. Cosmo Melvill). Two obtained out of small flock Towyn (H. Franklin).

MONTGOMERY. Unknown.

200.—TEMMINCK'S STINT. *Tringa temmincki* Leisler.

Recorded once on the Dee Estuary.

Brockholes records two, one of which he shot, on the Dee Marsh near Shotwick on 25th August, 1862: this would be in Flintshire (Dobie's list).

201.—CURLEW-SANDPIPER. *Tringa subarquata*
(Güldenstädt).

CORBIBYDD = Dwarf-Piper; GYLFINHIR BACH = Little Curlew.

On autumn and spring passage occurs on the coasts and estuaries, especially the estuaries of the Dee and Dovey; not common.

The Curlew-Sandpiper occurs on all parts of the coast in varying numbers in autumn and spring, sometimes alone, and at other times in company with Dunlins and other shore-birds. Like these it affects sandy places and salt marshes, where it runs actively about in search of the sand-hoppers and other small animals which form its food. It bears a general resemblance to the Dunlin, but is slightly larger, and may be distinguished by the white rump which shows in flight.

ANGLESEY. Holyhead, rather infrequent visitor (Edwards). Occasionally seen on the shores of Menai Straits (Dickinson); four seen on shore, Rhosneigr, 12th June, 1905—late in the season as it was the underparts were still white (Forrest).

CARNARVON. Occasional on the Straits, Bangor (Lort), and on the coast near Nanhoron (Lloyd Edwards).

DENBIGH AND FLINT. Dee marshes; not uncommon in autumn along with Dunlins (Brockholes). Occasionally found amongst strings of Dunlins from the same locality, in the Chester shops (Dobie's list). One shot from amongst Dunlins on the Dee Estuary, in possession of Mrs. Comber, Parkgate (Brooke); another in Mr. F. L. Congreve's collection (Congreve). One on Dee marshes 9th October, 1904, in company with a Dunlin—very tame: another in grey and white winter plumage 19th February, 1905 (Cummings). A female obtained 14th November, 1898, and another 25th September, 1900, near Heswall (V. Wilson).

MERIONETH. Dovey Estuary, occurs in varying numbers from year to year, usually in September (Salter); shot twenty-four one afternoon (Kershaw); occasionally in flocks of twenty to thirty as on 10th February, 1902 (Feilden). Barmouth, regular visitor to the estuary (Roberts); generally in early autumn with Dunlins (Rawlings). Obtained there (Greener). Obtained Towyn (H. Franklin). Three on the Artro Estuary 11th September, 1906; very tame (Attlee).

MONTGOMERY. Unknown.

202.—PURPLE SANDPIPER. *Tringa striata* Linn.

PIBYDD DU = Black Piper.

Not uncommon from winter to early summer in the west, rare in the north; generally occurs singly or in pairs.

A distinguishing characteristic of the Purple Sandpiper is its tameness. It will allow an observer, if he moves quietly, to approach within a few yards before taking flight, and even then it travels but a short distance before again alighting. It is found on outlying rocks and stacks, but particularly affects boulder-strewn beaches, and will often remain motionless for a long time, perched on a rock, in a moping attitude, with its head drawn in and the bill pointing obliquely downwards. Its dark hue and yellow legs also distinguish it from most other sandpipers.

Its visits to North Wales appear to be chiefly in spring, not in autumn, though it not infrequently remains into June. Dr. Russell even records it as late as July 24th, 1898, when he watched a pair at Colwyn Bay swimming on the shore pools and running amongst the boulders. Mr. O. V. Aplin, when visiting St. Tudwal's on May 19th, 1900, observed one in a cave. As the party landed from the boat "it darted out, being joined outside by another, not noticed before. It had a pretty twittering cry."*

ANGLESEY. Obtained Holyhead between 1884-7 (Eyre). A pair seen near Holyhead May, 1894; one Bull Bay 18th March, 1903, and one Dinas Trefriw, Aberffraw, 18th March, 1904 (Cummings). One seen Penmon 21st May, 1903 (Aplin). Received specimen from Holyhead (Eyton).

CARNARVON. Occurs about Bangor (Lester Smith) and Portmadoc (Evan B. Jones). Pair on shore at Criccieth 28th April, 1902 (Forrest and Moore); one Deganwy 22nd May, 1904 (Forrest). A great many on St. Tudwal's, 1902-3, so tame that they could almost be caught with the hand (*Zoologist*, 1905, 101). Others recorded on same island—five on 26th May, 1893; pair 19th May, 1900; one 24th May, 1901, and pair shot there 14th May a good many years ago (Aplin).

DENBIGH AND FLINT. Seen in small flocks twice prior to 1824 during northerly gales on Llandrillo Bay (John Price, *Llandudno Guide*, p. 107). A pair Colwyn Bay 26th February, 1898 (Russell). Several obtained Dee Estuary, near Heswall (V. Wilson).

MERIONETH. Not uncommon on the rocky or boulder-covered parts of the coast in winter (Haigh). Fairly common Barmouth, and observed as late as the middle of June (Rawlings). Dovey Estuary, met with every winter singly or in pairs; far from numerous (Salter). Seen at Barmouth (Greener). Obtained Towyn (H. Franklin).

MONTGOMERY. No record.

* *Zoologist*, 1901, 146.



ON THE WEST COAST—The Waders' Feeding Ground.

Photographed by WALLACE HEATH.

[To face page 352.]

203.—KNOT. *Tringa canutus* Linn.

CNUT = Knot; MYNIAR GOESGOCH = Red-legged Snipe;
PIBYDD GLAS = Blue Piper; PIBYDD LLWYDWYN = Grey-
White Piper.

Migrant appearing in flocks on flat coasts from autumn to spring.

None of the older authors mention the Knot as occurring in North Wales, yet it is by no means uncommon in autumn and spring as a passing migrant. Its numbers vary considerably, but it is essentially gregarious, and the flocks often reach two hundred or more. On 31st December, 1905, Mr. Charles Oldham saw an immense flock on the Dee Estuary—at least two thousand, as well as another flock about half that number: the birds were all running along in the same direction and presented a most singular appearance—a moving mass of grey. On the previous day several Knots were shot in a mixed flock of Knots, Dunlins, and Redshanks, whilst another was obtained at Marbury, near Northwich, Cheshire.* Its visits are somewhat irregular, so that intervals of several years may elapse without any Knots being seen. It is, perhaps, rather more frequent on the west than on the north coast. It seems to have escaped observation in Anglesey, but further search will doubtless reveal its presence on the flatter parts of the coast, especially on the western side of the island.

ANGLESEY. Not recorded, but, doubtless, occurs.

CARNARVON. Occasionally on Conway Estuary in autumn†(Moore). Occurs on coast Portmadoc district (Evan B. Jones); sometimes numerous there (Wilson Roberts). Several shot by Mr. T. Day out of a large flock at Criccieth in the very severe weather of February, 1895 (Forrest). Two seen on shore Lley, 1st February, 1903 (Aplin).

* *Zoologist*, 1906.

DENBIGH AND FLINT. Occurs in autumn and winter on the Dee Estuary and along the north coast (Dobie's list). Plentiful on the Dee Estuary in winter (Brooke, V. Wilson, and Wrigley); one shot out of flock there, Christmas, 1900 (Congreve). At the Dee lightship one was killed, 20th October, 1885, and about thirty observed, 18th October, 1886 (*B.A. Migration Reports*).

MERIONETH. Barmouth, some winters in vast flocks: others in limited numbers (Rawlings). Dovey Estuary occasional, none observed last ten years (Kershaw). Small flocks most years (Feilden). Large flocks sometimes for a short time during the first three weeks of September (Salter). At mouth of Traeth Bach, flocks of fifty to two hundred every winter on sandy parts of the coast; pair in full summer plumage at Barmouth, 7th June, 1894 (Haigh). Two shot out of flock of twelve on estuary, Towyn, first week in February, 1907; one partially red on breast (H. Franklin).

MONTGOMERY. Not recorded, but has occurred just over the Shropshire border (Forrest).

204.—SANDERLING. *Calidris arenaria* (Linn.).

PIBYDD Y TRAETH = Shore-Piper; HUTAN LWYD = Grey Dotterel; LLWYD Y TYWOD = Grey (bird) of the Sand.

Occurs on flat parts of the coast in autumn and spring, most numerous in May.

The Sanderling is met with generally in flocks or small parties on the flatter parts of the coasts and estuaries, chiefly as a passing migrant in autumn and spring. Some few spend the winter months here, but the numbers are greatest on the spring passage, especially during May and the early part of June. Occasionally individuals linger even as late as July, when they are in breeding plumage, though the species nests far to the north of the British Isles.

ANGLESEY. Frequent and sometimes numerous on the west coast (many observers).

CARNARVON. Occurs about Bangor, Pwllheli, Portmadoc, and Llandudno (many observers).

DENBIGH AND FLINT. Common on the Dee Estuary (many observers). Obtained at Connah's Quay and Abergele (Dobie's list). Three shot near Rhyl 6th February, 1891 (Moses MS.).

MERIONETH. Occurs in small flocks spring and autumn (all observers). Very numerous on the spring passage in May and June, often remaining until the middle of the latter month (Haigh).

205.—RUFF. *Machetes pugnax* (Linn.).

Occasional visitor in spring and autumn; chiefly to the Dee and Dovey Estuaries.

Whether in the days when the Ruff was common in the Fen district it ever visited the western coasts and estuaries in any numbers, we have no evidence, but probably not, as none of the older writers even mention it. At present it seems to be only a casual wanderer in ones and twos, principally to the estuaries of the Dee and Dovey. It has been noted rarely in west Anglesey, and once only inland in Montgomeryshire.

ANGLESEY. Ruff and Reeve obtained on Llyn Coron in the spring, 1880 (Edwards). Seen years ago on Bodorgan Lake (Humphreys).

CARNARVON. Not recorded.

DENBIGH AND FLINT. Brockholes records that "several Ruffs were shot in spring some years ago in the estuary of the Dee; a few young Reeves occur almost every autumn on the Dee marshes." An immature specimen in Chester Museum "was shot at the mouth of the Dee in 1880; the late Mr. Wm. Thompson, who preserved it, said he not infrequently received them in the autumn" (Dobie's list). Dee Estuary, shot occasionally (Congreve); pair preserved shot there in 1890 (Brooke). Shot one out of a pair at Rhyl in August, 1874 (W. J. Kerr, *Zoologist*, 1874, 3913). A Reeve shot at West Kirby, October, 1852 (Byerley, *Fauna of Liverpool*). Young male and female obtained 1906, Dee Marsh; adult seen October, 1898 (V. Wilson).

MERIONETH. Adult Reeve shot by Mr. Clement Southam at Towyn, about 1870 (Forrest). Dovey Estuary, rare occasional autumn visitor (Salter). Reeve killed there about 1890

(Hooton), another about same date in own collection, and met with several others since (Kershaw). Adult male in collection obtained on Dovey, 1906 (Feilden).

MONTGOMERY. In a letter to the late Mr. W. E. Beckwith, Mrs. H. Leslie records two in old river bed at Aber Tanat, 11th May, 1881 (Forrest).

206.—COMMON SANDPIPER. *Totanus hypoleucus* (Linn.).

PIBYDD Y TRAETH = Sandpiper; PIBYDD Y DORLAN = Piper of the Streamside; GIACH OR SNIPEN YR HAF = Summer-Snipe.

Summer migrant. Generally distributed and common in all suitable places except in Lley.

This graceful bird is reported by observers in all parts of North Wales as more or less common except in Lley, where Mr. Aplin and others have remarked it as decidedly scarce, though it is a regular visitor and breeds amongst other localities at Afon Wen and along the Afon Soch.

Eyton records the Sandpiper as "common on the coast and islands." This last word is probably a misprint for *inland*, but it does occur on some of the islands, for in 1901 Mr. O. V. Aplin observed one on Bardsey.

It seems to be equally at home by the sea, on the banks of lowland pools and streams, by tumbling mountain torrents, or on the shores of lonely tarns or moorland pools. I have more than once found it breeding at elevations approaching 2000 feet, whilst several observers have found nests on rough ground near the mouths of rivers in western Merioneth and Anglesey. On 30th May, 1904, Mr. O. V. Aplin found a nest at Mochras actually *on* the sea beach, about fifteen yards from ordinary high tide mark: it was amongst a little marram-grass, dry seaweed, shells, driftwood, old tins, and seawrack in general, sheltered very slightly by marram-grass.

He has also seen nests amongst the short fine rush in the middle of the marsh there. In 1892 Mr. G. A. Hutchinson found three nests within the space of one hundred yards along the River Conway at Glan Conway, and within two yards of the railway metals. Indeed the Sandpiper evinces a decided liking for railway embankments for nesting purposes: Mr. Ruddy has shown me nests near Llandderfel station, and says that there is a nest or two there every year.

On one occasion Mr. Ruddy surprised a Sandpiper sitting on its nest. Instead of flying away it feigned death, putting out first one wing half open, then the other, next laying its head gently on one side and lying thus quite still. It never moved until he took it up in his hand, but when he gave it its liberty it flew off. It returned to the nest and eventually hatched off its young.

The nestlings quickly find their way to the nearest water, and in their earliest stages are expert divers. The Common Sandpiper often nests near to human habitations. Mr. C. Kempster reports that in 1901 a pair reared their young in a rose-bed close to his house; the young used to run about the tennis lawn catching flies, the old bird meanwhile keeping watch on the fence. In 1906 Mr. B. B. Riviere found a nest in the middle of a wood, more than two hundred yards from Bala Lake.

The Common Sandpiper generally arrives about mid-April and departs at the end of September or early in October. The earliest date noted by Mr. Ruddy, at Palè, was 1st April, 1898. Mr. C. Oldham reports that the breeding haunts on the moorlands round Pentre Voelas were deserted by 30th July, 1905, though there were plenty of Sandpipers lower down on the tidal part of the River Conway. Probably the elevated districts are always deserted about that date, the birds with their fledged young resorting to the feeding grounds on estuaries and flat shores for the remainder of their sojourn. This emigratory movement begins as soon as the young are well able to travel. On 17th July, 1904, Mr.

C. Kempster saw seventeen Sandpipers together by the River Tanat at Llansantffraid (Montgomeryshire); next day all had gone except one, which stayed till September. The same year Mr. S. G. Cummings observed three on the Dee Estuary on 3rd October, and one on the 8th and 11th, whilst in 1903 he saw a party of ten at Saltney as early as 4th July. Mr. C. Oldham also informs me that every year at the end of July and in August, Sandpipers are to be seen scattered here and there all over the Dee Estuary. On 22nd April, 1902, I saw a large flock flying over the Dovey Estuary, evidently just arrived, and during the following days I found them in small parties in various places along the coast between Aberdovey and Harlech.

The love-song of the Sandpiper uttered as it flutters up and down in the air is one of the prettiest and most characteristic sounds of spring by the Welsh streams.

207.—WOOD-SANDPIPER. *Totanus glareola*
(J. F. Gmelin).

Very rare; obtained in Merioneth, Carnarvon, and Montgomeryshire.

The Wood-Sandpiper resembles the Green Sandpiper, but may be distinguished by the axillaries being mainly *white*—in the Green Sandpiper they are mainly brown with narrow white lines across each feather. The difference between the tail feathers in the two species is shown in Mr. Howard Saunders' *Manual*. Mr. Laisters F. Lort has a beautiful specimen shot by his father at Llanerfyl, Montgomeryshire, in 1873. Capt. G. W. Cosens has one which he obtained at Glandovey about 1880. Both these I have examined. A third example was shot by Mr. G. H. Caton Haigh on a backwater of the River Glaslyn, but in Carnarvonshire, 3rd May, 1898.

208.—GREEN SANDPIPER. *Totanus ochropus* (Linn.).

PİBYDD GWYRDD = Green Piper.

Not uncommon in the eastern half of the district in autumn, and occasionally met with at other times; rare in the west.

Eyton records the Green Sandpiper as "often killed inland as well as on the coast." So far as can be judged from the somewhat meagre reports below, the species is distinctly rare in the west, except on the Dovey Estuary, where it is not uncommon in autumn. It seems to frequent the Dee for its whole length, from the estuary up to Bala, and has been recorded in all months of the year, though most frequently in autumn. Dr. Dobie speaks of it as occurring in *autumn* and *winter*, Messrs. Coward and Oldham in *summer*, and Mr. Ruddy in *all months except* May and June.

Despite the fact that the Green Sandpiper undoubtedly does occur here during the breeding season, it has never yet been found nesting in Britain. Unlike other members of the family, it does not make a nest on the ground, but lays its eggs in the old nest of some other bird of similar size, such as the Song Thrush or Blackbird.

Its flight is very different from that of the Common Sandpiper; it generally rises suddenly, and, after flying low with an erratic snipe-like action for a few feet, rises high in the air and flies clean away.*

ANGLESEY. Not recorded.

CARNARVON. One observed on a pool on the Carnarvonshire side of the Glaslyn Estuary, 15th June, 1889 (Haigh).

DENBIGH AND FLINT. Occurs at Rûg (Wynn). Fairly common in autumn on Dee Estuary (Brooke and Congreve). An autumn and winter visitor to the Dee marshes and Maesmor, Corwen (Dobie's list). One on Dee marshes, 9th October, 1904; a pair on 1st February, and three on 13th September,

* C. Oldham, *in lit.*

1905 (Cummings). Often observed on the Dee marshes throughout the summer months, as well as in autumn and winter (Coward and Oldham, *Birds of Cheshire*, 222). Not at all uncommon in the Dee Valley (Ruddy). Specimen at the Lyth, Ellesmere, from Llansilin (Forrest).

MERIONETH. Palè, frequent: has occurred in every month of the year except May and June; two on Dee at Llandrillo, 2nd August, 1902 (Ruddy). Never observed at Barmouth (Rawlings), nor at Penrhyndeudraeth (Haigh). Rare Bala (Burton). Shot two on Dovey Estuary (Kershaw). Not uncommon there as an autumn visitor (Salter). Seen but not obtained Towyn (H. Franklin).

MONTGOMERY.—Shot one on the Severn at Caersws in winter 1901-2 (Williams, keeper, Leighton estate). Several obtained Llanllugan (Lort).

209.—COMMON REDSHANK. *Totanus calidris* (Linn.).

COESGOCH = Redshank; PIBYDD COESGOCH = Red-legged Piper.

Common as a migrant on and near the coasts; rare inland; a few pairs breed in scattered localities.

This is another of the species marked by A. G. More as probably breeding in North Wales, although he had no actual record. As stated below, the Redshank does nest in several scattered localities on both the west and north coasts, as well as (much more rarely) inland. The nests I have seen on Mochras were extremely slight, the four eggs being placed on the ground amongst rushes, with only a few bits of dead rush by way of lining to the hollow.

The nests are not at all easy to find, especially as the birds leave them whilst the intruder is still far away, and run a considerable distance before taking wing. The birds are extremely noisy, and keep flying backwards and forwards with incessant clamour as long as anyone remains near the nest.

The only instance of the Redshank breeding far inland

was near Bala in 1897, when, on 23rd June, Colonel Burton found on his shootings on Arennig a pair accompanied by a brood of very young birds, one of which was caught by his dog uninjured. Another nest was found by Miss Halhed in 1899 on the bank of the River Lledr, to the south of Bettws-y-coed, but this was only about ten miles inland.

The number of Redshanks resident in North Wales is greatly increased during September and October by immigrants, while from that time onwards parties, and sometimes considerable flocks, are met with on all the flat parts of the coast. Many pass on further south for the winter, when the numbers again diminish. On the return migration in spring the local birds receive a fresh accession, but the numbers seem to be generally not so great as in autumn.

The Redshank, like most waders, often perches on trees and fences, especially in the breeding season. It also swims well, as recorded below by Dr. Moses. The records here given refer mainly to the status of the bird as a breeding species.

ANGLESEY. Common Holyhead: one or two pairs breed by Traffwl Lake (Clulow, Edwards and Marshall). Found eggs Llanddwyn, 1897 (Long). Pair Llyn Bodgolched and Malldraeth, June, 1902; one Holyhead, June, 1904, apparently had brood; others seen Rhosneigr and Llanddwyn (Coward and Oldham). Once killed several out of a flight of at least fifty near Rhoscolyn (Eyton, 1838). Several pairs breed every year on the salt marsh near Malldraeth (Oldham).

CARNARVON. Conway Estuary, breeds (Hague and Hutchinson); nest on River Lledr, above Bettws-y-coed, 1899 (Halhed). Llandudno, frequents the shores but retires to the marshes to breed (Williams' *Llandudno Guide*, 1861). A pair Afonwen, May, 1902 (Aplin).

DENBIGH AND FLINT. Common in winter along the north coast and Dee Estuary (Dobie's list); breeds on north side (Brooke); two nests April, 1899 (Congreve). Seen in breeding season near Colwyn Bay (Forrest); one Foryd, 18th May, 1904 (Jourdain). Common St. Asaph in winter (Rogers); several parties there in November, 1839, four shot; two of which, being only winged, were seen to swim against wind and tide (Moses MS.).

MERIONETH. Nested near Bala, 1897 (Ruddy). Resident near Barmouth (Rawlings); breeds on Mochras (Harries, Jourdain, and Pearse); several pairs nesting there in May, 1902 (Forrest and Moore); seen Harlech, 17th July, 1903 (Masefield). Dovey Estuary, breeds occasionally (Kershaw). Very common about Penrhyndeudraeth (Haigh). Seen Penmaenpool in breeding season (Aplin) and Towyn (H. Franklin).

MONTGOMERY. Not recorded, but probably occurs as a passing migrant.

210.—SPOTTED REDSHANK. *Totanus fuscus* (Linn.).

Very rare; obtained on three or four occasions.

Dr. W. E. E. Kershaw has an immature example which he shot on the Dovey Estuary, near Aberdovey, in September, 1899; he tells me that it was very tame. Brockholes states: "A bird was killed about the year 1864 which, from description, was most probably referable to this species: Dee Marsh, near Burton." Mr. W. B. Halhed says his son, Mr. D. B. Halhed, shot one on the marshes below Llanrwst in September, 1899, but it was not preserved. There is an immature example in the museum at Whitechurch, Salop, which was shot close to Hanmer Mere (Flintshire) about 1880.

211.—GREENSHANK. *Totanus canescens* (J. F. Gmelin).

COESWERDD = Greenshank.

Not uncommon on the coasts and estuaries in autumn and spring; fewer in winter; rare inland.

The Greenshank occurs in North Wales principally on the autumn and spring passages, some few only remaining here and there through the winter. It particularly affects estuaries and their vicinage, only very occasionally going far

into the interior. On the north coast it has not been noted anywhere except on the Dee Estuary, nor in Anglesey except on the west coast.

ANGLESEY. Common on the shores and estuaries round Holyhead in the shooting season (Edwards). Occasional (Clulow and Eyre); one received thence by J. Shaw (*Field*, October, 1874). Rhosneigr, in winter, scarce (Long); frequent Aberffraw (Gosling).

CARNARVON. Occurs Portmadoc district, but not common (Evan B. Jones). Shot one out of five mouth of Dwyfawr River, near Criccieth, in 1872, and saw seven at same spot in 1883 (Priestley). Rather common there; Mr. Thos. Day, who resided there several years, often shot them (Forrest).

DENBIGH AND FLINT. Occasional autumn and winter visitor to the Dee marshes (Dobie's list). Shot two; have one stuffed (Brooke). Always a few about on the Dee Estuary in winter and early spring (Congreve). Mr. C. Stivens had a specimen shot on Sealand (Forrest). Specimen at the Lyth, Ellesmere, from Llansilin (*id.*). One on Dee marshes, 13th January, 1904, and another, 3rd September, 1905 (Cummings). Pair obtained there, September, 1902 (V. Wilson),

MERIONETH. Dovey Estuary, obtained occasionally (Hooton). Local, immature example in own collection, shot in August, 1900 (Kershaw). Small parties frequent in August (Salter). Rare, Barmouth (Rawlings). Seen Penrhyndeudraeth in spring and autumn; occasionally one spends the winter there (Haigh). One shot at Farchynys, on Barmouth Estuary, 3rd January, 1895 (Beale). Obtained five on Dovey Estuary (Feilden). Rare, Towyn; shot occasionally on Dysynni in winter (Kirkby and H. Franklin).

MONTGOMERY. One shot Bryn Tanat, 5th September, 1873 (H. Leslie, in *Field*). Saw one Llansantffraid, 25th September, 1902 (Owen).

212.—BAR-TAILED GODWIT. *Limosa lapponica* (Linn.).

RHOSTOG COCH = Ruddy Godwit; GIACH PENGAFR = Goat-headed Snipe; CYFFYLOG Y MÔR = Sea-Woodcock.

Not uncommon on flat parts of the coasts and estuaries in autumn; fewer in spring; rare inland.

Few of the older writers seem to have noticed this species,

though it visits the flatter parts of the coasts and estuaries almost every autumn, sometimes in considerable numbers. Most of the birds then seen pass on further south before the oncome of winter. On the return migration in April and May they apparently travel by some other route, as comparatively few are observed at that season in North Wales, and those only on the west coast. Mr. G. H. Caton Haigh has known Godwits to linger on the Traeth Mawr as late as June 4th.

ANGLESEY. Two in Penrhos Bay, 9th October, 1901 (Coward and Oldham, *Zoologist*, 1905, 222). One obtained on Menai Straits early in October, 1903 (Stivens).

CARNARVON. Two on west shore Pwllheli, 26th May, 1902 (Aplin, *Zoologist*, 1903, 208), and about twenty west of Afonwen, 2nd February, 1903 (*ib.*, 1905, 102). Occurs near Nanhoron (Lloyd Edwards).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*). Sometimes common in autumn on the Dee marshes; several large flocks in 1892 (Dobie's list); frequent on the Dee Estuary (Wrigley); specimens obtained there (Brooke). Several shot out of small parties on the banks of the River Elwy, near St. Asaph, in September, 1840; largest weighed $14\frac{1}{2}$ oz., and its bill measured four inches (Moses MS.). Pair in collection at the Lyth, Ellesmere, from Llansilin (Forrest). Shot six and noted several near Heswall (V. Wilson).

MERIONETH. Penrhyndeudraeth, not uncommon in May and September, but rarely winters there; seen as late as June 4th (Haigh). Dovey Estuary, used to be plentiful, and still occurs in flocks, August and September (Feilden and Salter); occasionally met with there (Kershaw). Seen chiefly in autumn at Barmouth (Rawlings), and on the estuary towards Dolgelly (Beale). Two immature on River Artro, by Pensarn Station, 9th May, 1902; adult with red neck and breast on Artro Estuary, 5th May, 1905 (Aplin). Two there 9th September, 1906 (Attlee). Obtained at Barmouth (Greener), and Towyn (H. Franklin).

MONTGOMERY. Shot two together on marshy land close to house, Garthmyl, 14th September, 1904 (Johnes).

213.—BLACK-TAILED GODWIT. *Limosa belgica*
(J. F. Gmelin).

CWTYN DU = Black Plover.

Somewhat rare autumn visitor to the estuaries of the Dee and Dovey; obtained once in Anglesey in May.

Eyton says "several specimens have occurred," though, curiously enough, he does not mention the common Bar-tailed species. On the west coast the Black-tailed Godwit occurs but rarely as an autumn visitor to the estuaries of the Dovey and Mawddach. Mr. F. T. Feilden has an immature example, obtained on the Dovey, while in August, 1893, Mr. Rawlings procured one at Barmouth.

Dr. Dobie mentions one obtained on the Dee marshes in the autumn about 1891, and another that he "saw some years ago in the hands of the late Mr. Wm. Thompson for preservation, which had been shot on the estuary of the Dee." Mr. L. Brooke, speaking of the same estuary, says that the Black-tailed Godwit is not nearly so frequently met with as the preceding species. About 1892 he obtained two specimens, one of which he sent to Sir R. Payne Gallwey, and the other he had stuffed, but, as it was badly done, he discarded it, hoping to get another. Mr. V. Wilson states that he has an adult male, obtained on the Dee Estuary (Burton marshes), 5th September, 1902.

Particular interest attaches to a specimen in the possession of the Rev. M. C. H. Bird, obtained at Maelog Lake, Anglesey, in May, 1886. It is a female in full red breeding-plumage—the only example recorded in North Wales at that season of the year.

214.—COMMON CURLEW. *Numenius arquata* (Linn.).

*GYLFINHIR = Long-Bill; CHWIBANOGL FYNYDD = Mountain-Whistler.

Resident and common, breeding on all the moorlands and on some lowland bogs; resorts to the coasts from autumn to spring.

Throughout the summer months the long rippling whistle or the plaintive call of the Curlew constantly greet the wayfarer on the moorlands of North Wales. This is indeed one of the most characteristic birds of the Welsh uplands throughout the district; and it is very numerous in some parts—as, for example, around Dolwyddelan and Pentre Voelas.

In choosing a spot for its nest the Curlew generally selects boggy ground, where the grass is rough or mingled with tufts of rushes. The eggs number three or four, the former number being, according to my experience, more usual than the latter.

Few birds are more wary than Curlews. Across the open moorland they descry any person approaching from afar, and, rising into the air, sweep round in wide circles, alarming every creature in the neighbourhood by their loud and oft-repeated cries. When they have young their anxiety seems to be redoubled, and at such times I have heard them utter a peculiar note, which was apparently a signal to the chicks to lie down. Although the bulk of the Curlews resort to the moors for the breeding season, some few remain to nest on lowland bogs. Several pairs regularly breed on Welshampton and Whixal Mosses, Flintshire; occasionally in east and west Anglesey, and along the south shore of the

* Vulgarly pronounced "Glumineer."

Dovey Estuary. Eyton mentions Curlews breeding near Holyhead. Mr. G. D. Harrison states that they very frequently nest in considerable numbers in low-lying, wet, and rough fields adjoining the river near Garthbeibio and Cann Office. In the Minera district these birds generally lay their eggs on ground that has been fired.*

As a rule the Curlew appears on the moors about the second or third week in March, leaving again for the coasts during August. For the remainder of the year it is more or less gregarious, and is found mainly on the coast. It is often extremely numerous on the west coast of Anglesey, where it may be seen wading just at the edge of the tide in search of food, presumably sea-creatures. It also frequents weed-covered shores seeking for food in the tangles left uncovered by the receding waves. Even in summer such places are not entirely deserted, a few non-breeding birds lingering here and there. Flocks sometimes appear on the flats as early as the beginning of August or even the end of July. About one hundred were seen by the lighthousemen on St. Tudwal's at 11 a.m. on 24th July, 1885. Of late years the Curlews far inland—in Montgomeryshire and along the English border—have shown an increasing tendency to descend from the moors to the neighbouring valleys instead of migrating to the seaside for the winter months. In such cases they resort for food to cultivated lands and become far less shy than in the breeding season. Mr. Ruddy noted two on 16th February, and a flock of about forty on the 28th February, 1903, feeding by the Dee at Llandderfel. In some few instances they have even nested lately in the valleys, though they were never before known to do so. In North Wales the eggs are usually laid during the first half of May, never in April so far as I can learn.

Curlews are frequently noted at the lighthouses in autumn and spring, often flying over in large numbers during the night. Mr. O. V. Aplin records them as seen occasionally on

* Dobie's list.

Bardsey,* and they doubtless visit other islands from time to time.

A white Curlew haunted the vicinity of Penrhos Park, near Holyhead, from mid-October till spring, for five successive seasons, 1883-8.† Mr. A. B. Priestley records having seen one white and two pied varieties in Anglesey;‡ whilst Mr. D. N. Kirkby has a white Curlew shot at Towyn in 1896, which had been seen in the neighbourhood for two years. Other similar varieties have been reported.

215.—WHIMBREL. *Numenius phaeopus* (Linn.).

COEG GYLFINHIR = Sham Curlew.

A passing migrant in spring and autumn : more numerous on the west than on the north coast ; in spring than in autumn.

The Whimbrel, although so similar to the Curlew, differs from it both in habits and status in North Wales, being only a passing migrant, and seldom straying far from the coasts. Throughout the months of April and May small parties are constantly passing northwards along the west coast, and this movement continues into the early part of June, though by that time the numbers are much less. Stray individuals have been seen even in July, whilst the return migration begins in August. The movements north and south are at their height respectively in May and September, though North Wales is affected more by the spring than the autumn migration.

Many Whimbrels appear to pass over without alighting, often at night, when they may be recognized by the seven-times-repeated whistle. Those that alight are attracted most by the flat lands bordering the estuaries, where they often linger

* *Zoologist*, 1902, 15. † *Field*, 3rd November, 1888.

‡ *Bygones*, 1889, 236.



THE CURLEW'S HAUNT.

Photographed by OLIVER G. PIKE.]

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for days together. The Dee Estuary lies somewhat off the migration route, so that the numbers which visit it are less than on the west coast. Inland, the Whimbrel appears only as an occasional passing migrant; Mr. H. S. Davenport once found a small party on the shore of Bala Lake. The statement in the *History of Aberconwy*—repeated by John Price—that the Whimbrel “breeds in the mountains,” is obviously erroneous.

The Whimbrel is not mentioned in the *B.A. Migration Reports* as occurring at any of the lighthouses—the keepers would probably not distinguish it from the Curlew—but Mr. O. V. Aplin records it at St. Tudwal’s Isle in May, 1901.* In Lleyllyn he observes that it prefers fresh marshes to muds or actual sea-shore, and is especially fond of grass-fields. A pure white Whimbrel that had been seen there for several days was shot at Towyn 1st November, 1889.

216.—BLACK TERN. *Hydrochelidon nigra* (Linn.).

MÔRWENNOL DDU = Black Sea-Swallow; YSGRAELL DDU = Black Screamer.

Somewhat rare passing migrant met with chiefly on estuaries.

Although this species is of less maritime habits than the other terns which visit North Wales, it appears to have been met with only twice on inland waters—on Bala Lake and a pool near Cerrig-y-druidion. As a rule it occurs singly in early summer or on the return migration in autumn, and, although by no means common, visits the estuaries of the Dee and Dovey more often than any other parts of the district.

It seems probable, however, that it often passes unnoticed, since in the neighbouring English counties, especially in Shropshire, it is not uncommon. I have seen it on the

* *Zoologist*, 1902, 108.

Ellesmere meres, close to the Flintshire border, and one day watched one for a long time catching *Ephemera*, which were hovering in clouds over the water. It never once plunged into the water after fish. Dr. Dobie also mentions the insectivorous habit of this species, the stomachs of several examined containing flies and beetles.

ANGLESEY. Holyhead seen on one occasion (Edwards), and once or twice Aberffraw (Gosling). One near Valley, 10th June, 1897 (Oldham, *Zoologist*, 1897, 329).

CARNARVON. Not recorded.

DENBIGH AND FLINT. Several obtained on the Dee Estuary (Dobie's list). One shot on a small lake at Cerrig-y-druidion, 26th July, 1895 (*Field*, 1895). Two in collection shot on Dee Estuary (Stevens).

MERIONETH. Dovey Estuary, a rare straggler in spring or autumn (Salter); three seen Penrhyndeudraeth many years ago (Haigh). Single birds seen occasionally at Barmouth (Rawlings); one Bala lake, May, 1901 (Davenport). Specimen turning from summer to winter plumage, shot out of party of eight in October on Dovey Estuary (Feilden).

MONTGOMERY. Not recorded.

[CASPIAN TERN. *Sterna caspia* Pallas.

The late Mr. J. C. Stevens of Chester had a specimen which he believed was obtained at the mouth of the River Conway by Mr. Lampon, who gave it to him.]

217.—SANDWICH TERN. *Sterna cantiaea* J. F. Gmelin.

Has occurred once or twice.

Mr. Victor Wilson reports one picked up dead at West Kirby on 14th November, 1901, now in his collection. Mr.

T. H. Nelson states that in 1902 a pair of Sandwich Terns appeared on the Skerries, possibly attracted by the presence there of the Arctic and Roseate Terns. So far as he could ascertain these were the only birds of the kind ever noticed on the island. They did not stay to breed.

218.—ROSEATE TERN. *Sterna dougalli* Montagu.

A small breeding colony on the Skerries, and another elsewhere in North Wales.

It has been known for a good many years back that this beautiful species breeds on the Skerries. In the interests of the birds it was thought best not to publish the locality, but latterly so many egg-collectors have obtained knowledge of it that further secrecy seems useless. Had it not been for the difficulty of access to this wave-washed rocky island, the taking of the eggs would probably ere now have made an end of this colony. Even as it is the numbers—never very large—have been considerably reduced, but steps having been taken to preserve them, they are not now in danger of extermination. Mr. S. G. Cummings tells me that there were not many pairs on the island when he visited it in June, 1902.

An interesting account of the terns on the Skerries is given in the *Zoologist* for March, 1906, by Messrs. Cummings and Oldham. The colony of Arctic Terns here is one of the largest in the British Islands, the number of birds being extraordinary. "The Roseate Tern is not abundant on the Skerries. It is impossible to give its numbers exactly, but at a rough estimate there cannot be more than one pair to six or seven hundred, or perhaps a thousand, pairs of the dominant species. The birds were not segregated, but scattered among the Arctics all over the occupied area, though at one spot there were three pairs together. . . . Normal eggs of the Roseate Tern are easily distinguishable from those of the Common and Arctic Terns, although the contrary has been frequently asserted. They are usually more

elongated: the ground colour is creamy-buff, varying in tone in different specimens; the markings are small, irregular, reddish-brown spots and streaks, usually distributed evenly over the shell, but sometimes densest at the thicker end, where they form an indistinct zone, and numerous underlying grey spots and blotches; the dark markings have very often a 'run in' appearance on the ground colour, and are very characteristic . . . The Roseate Tern shows a marked preference for rocky ground whereon to lay its eggs; these are generally in a cleft in the rock with some pretence at concealment. Two eggs seem to be the usual number, though one is not infrequent—three are exceptional . . . In the clear light of early morning with the sun's level rays striking the flying birds, the pink blush on the breasts of the Roseates was quite apparent when the birds were viewed in an advantageous position, but . . . the black bill and long streamers are characters more easily recognized, especially when the birds are on the ground. This species does not raise or depress its wings so much as the Common or Arctic Tern, and its flight consequently appears to be more buoyant, though this may be due in some measure to its more elegant shape."

There is another breeding colony of Roseate Terns in North Wales, but the locality cannot be divulged.

Mr. J. C. Stevens had a specimen said to have been shot many years ago on Sealand, and Mr. Victor Wilson reports two shot on the Dee Estuary 2nd November, 1900.

219.—COMMON TERN. *Sterna fluviatilis* Naumann.

GWENNOL Y MÔR=Sea-Swallow; YSGRECHEN=The Screamer;
YSGRAELL=Rattle.

Summer migrant, met with on all coasts, but most numerous round Anglesey, where it has three breeding stations.

Despite the epithet "Common," this species is much more

restricted in its range than the Lesser Tern—for in North Wales it has breeding stations round Anglesey, but apparently nowhere else, with the exception of the opposite coast of Carnarvon. Elsewhere it is only a passing migrant, or a visitor in search of food.

Large numbers resort daily throughout the summer months to the Menai Straits, hovering in a dense cloud over the shoals of fish left by the tide within the weirs. When, as often happens, these consist mainly of "whitebait," the Terns reap a rich harvest. The scene is one of great animation, the birds descending with a splash in rapid succession, filling the air meantime with their harsh cries.

Even more animated is the scene at any of the breeding stations. On the 19th July, 1903, I visited the one at Llanddwyn. The main colony is on a rocky islet less than fifty yards across, whilst a neighbouring small stack is occupied by a branch colony. The surface of the island was covered by the Terns, which, as the boat approached, rose up in a dense cloud with much clamour, and remained hovering round the place until the boat left. So thickly was the surface covered with nests that it was impossible to avoid treading on some of them. There were young of all ages, a few just able to fly, and hundreds of eggs in various stages of incubation. Many of these were rotten, the result of a storm which had swept over the islet some weeks before. A number of the nests were fairly bulky, and made of stalks of the sea-beet and *Atriplex*; others were very slight structures, whilst in numerous instances the eggs were laid on the bare rock. The clutches generally numbered either two or three; but one nest contained five eggs, the produce, doubtless, of two hens. Of the crowd of Terns which filled the air fully one-half carried each a small fish pendant from the point of the bill and hanging tail downwards, evidently intended as food for the young or sitting birds. None carried more than one fish—unlike the Puffin, which carries several at once.

Besides the Llanddwyn station mentioned above, the Common Tern breeds on Dulas Island and Ynys Moelfre

(off Anglesey), and on the sandhills at Aber-Menai both on the Anglesey and Carnarvonshire sides of the Straits. There were about forty nests at the last-named place in 1902.* The report of its breeding on the Skerries appears to be erroneous. In June, 1907, Mr. H. F. Harries found two nests with young on the sandhills at Rhosneigr.

In the *B.A. Migration Reports* it is stated that in 1886 a small flock of Common Terns was noticed at Penrhyndeudraeth 22nd April, several large flocks on the 25th, and very large numbers on the 13th and 14th May, the weather at the time being rough and wet. This species seldom puts in an appearance on the Welsh coast until the last week in April, and the bulk of the birds leave early in September. Williams' *Llandudno Guide* quaintly remarks that "when about to take their departure, like other Swallows *not* of the sea, they have been seen to collect in small flocks and wait about as if desirous to increase their numbers before starting."

Throughout the summer Common Terns are to be seen feeding singly or in small parties on all parts of the coast. In autumn they wander farther from their breeding places, and are then met with on the Dee Estuary and on inland waters such as the meres around Ellesmere. Ray, in his *Third Itinerary*, mentions seeing the Sea-Swallow at Pwllheli, 30th May, 1662. Several observers record this species off the coast of Llyn in summer, but it has never actually been found nesting in that district.

220.—ARCTIC TERN. *Sterna macrura* Naumann.

MÔRWENNOL Y GOGLEDD = Arctic Sea-Swallow ; YSGRAELL Y GOGLEDD = Northern Tern.

Distribution similar to that of the Common Tern, but breeds only at the Skerries and off Rhoscolyn.

It is not always easy to distinguish the Arctic from the

* Coward and Oldham.

Common Tern as both are similar in appearance, flight, and habits. When perched, the Arctic stands nearer to the ground than the Common species owing to its very short tarsus. It is further distinguished by its grey instead of white underparts, and by the brighter colour of the bill, which, in the breeding season, is red almost to the tip.

Owing to this difficulty in distinguishing the species there are fewer records of the Arctic than of the Common Tern. Nevertheless, there is sufficient evidence to prove that the former species is common during summer in the same districts as the latter, whilst on the whole it is, perhaps, the more numerous. At the breeding places the two appear to keep themselves distinct. Eyton, as well as several later observers, have stated that both species breed on the Skerries and the stacks off Rhoscolyn, but it is doubtful if such was ever the case, for in recent years Messrs. Cummings and Oldham found both localities occupied during the breeding season exclusively by Arctic Terns.*

The colony at the Skerries is so large that the Arctic Terns there certainly far outnumber those in the three colonies of the Common Tern. This being so, it follows that the Arctic is the most abundant tern in North Wales.

In the *B.A. Migration Reports* it is stated by the keepers at the Skerries lighthouse that the terns always arrive there on 6th May, then leave for a week, returning again for the breeding season. An account of an extraordinary immigration of Arctic Terns up the Severn Valley will be found in the chapter on Migration Routes.

ANGLESEY. Breeds on the Skerries (Eyton); a large colony there (Cummings) and on rocky islands off Rhoscolyn (Clulow, Marshall, and Oldham). Frequent Rhosneigr (Long); seen there 17th May, 1905, *et seq.* (Coward, *Zoologist*, 1905, 425). Numbers on Menai Straits, 10th June, 1903, feeding with Common Terns (Forrest).

* For a full account of the Terns on the Skerries see Cummings and Oldham, *Zoologist*, March, 1906.

CARNARVON. Frequent Llandudno (Forrest). Occasionally seen passing up the Glaslyn Valley on migration (Evan B. Jones). Mr. Coward has seen either Common or Arctic Terns off the coast of Lley (Aplin, *Zoologist*, 1900, 502).

DENBIGH AND FLINT. Occasionally St. Asaph (Wrigley). Dee Estuary (Congreve); shot one and saw two there, 14th October, 1901 (V. Wilson). Not uncommon Colwyn Bay (Russell). Shot two Glyn Ceiriog about 1879, and have skins (Beale).

MERIONETH. Dovey Estuary, not uncommon (Feilden). Seen chiefly on migration in May (Salter). Rare Barmouth (Rawlings), and Dolgelley (Beale). Penrhyndeudraeth, appears with the Common Tern, but is not quite so numerous (Haigh).

MONTGOMERY. No certain record.

221.—LITTLE TERN. *Sterna minuta* Linn.

MÔRWENNOL FACH = Little Sea-Swallow; MÔRWENNOL LEIAF = Lesser Sea-Swallow.

Summer migrant, common on the coast; many breeding colonies on flat shores in all the maritime counties, especially in the west.

This smaller species is more generally distributed along the coast than either of the preceding. Breeding colonies are scattered all along the shores from the mouth of the Dovey to the vicinity of Pwllheli. In the first-named place Mr. F. T. Feilden first noticed them in 1896. Seven years later I found about a dozen pairs nesting on a shingle bank right in the middle of the estuary—a spot that was liable to be covered with water whenever there was a higher tide than usual, especially with a strong wind from the west. This actually happened a few days after my visit, and Dr. S. Jackson, who went across from Aberdovey in a boat, found the eggs afloat. The same thing happened again in 1907. This is not the only instance in which the instinct of these birds has been at fault in the choice of a site for nesting.



ON THE MERIONETH SHORE—Breeding Haunt of Lesser Tern.

Photographed by WALLACE HEATH.

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The Lesser Tern arrives on the west coast about the end of April, and the eggs (usually two, often three in number) are deposited about a month later. They are laid with little or no attempt at making a nest, in a slight hollow on shingle or sand, many nests being crowded together into a small space, often scarcely a foot apart. The colonies vary from about ten to fifty or sixty pairs. One of the largest is situated on a shingle bank near Criccieth just above highwater mark, and I have visited it several times. The numbers here vary from year to year, and the position of the colony also varies to the extent of two hundred to three hundred yards east or west.

Young birds are first seen usually about the middle of June. Compared with those of the Ringed Plover, a bird which often breeds in close proximity to the Little Tern, they are very helpless, the legs being so weak that they are quite unable to run. They seek to escape detection by lying prone amongst the shingle, where the protective coloration of the down, yellowish with dusky markings, stands them in good stead. The old birds, when the colony is approached, all rise on the wing and fly round with reiterated harsh cries until the intruder departs, when all return to the breeding ground, hovering over it till each bird is above its own nest, when it drops down on to it.

The stone-coloured eggs so closely resemble their surroundings that when placed on shingle they are difficult to detect, but when deposited on sand they are somewhat easier to see. On 10th June, 1904, Mr. H. G. Attlee found several nests containing one or two eggs at Mochras on sand quite away from any shingle, and, on revisiting the spot later after a heavy gale, he could find no trace of them—they were completely buried in the sand.

ANGLESEY. Breeds on shore near Rhosneigr (Cummings, Dickinson, and Long); in 1905 first seen there 6th May (Coward); about twelve pairs in 1904, formerly more numerous; colonies Aber Menai and Malldraeth, 1902; and at mouth of Alaw, 1904; a few on north coast, 1903; breeds

Llugwy Bay, no eggs 5th June (Coward and Oldham). Often seen in numbers on Menai Straits, especially at east end (Forrest).

CARNARVON. Fairly common Bangor (Lort). Breeds Llanfairfechan (Benson) and Bodfan (Cummings). Scarce in Lleyn, but undoubtedly breeds east and west of Pwllheli in Hell's Mouth Bay (Aplin). Two colonies near Criccieth—one of about fifty pairs (Forrest and Horwood). Breeds near Penmaenmawr (Hague), and both sides of Conway Estuary; eggs found 20th May, 1903 (Hutchinson). Breeds near Portmadoc (Evan B. Jones). Seen at Hell's Mouth, Abersoch, in June, 1905 (Savage).

DENBIGH AND FLINT. Dee Estuary, common in autumn (Brooke and Dobie). Breeds Point of Air (Dobie and Russell).

MERIONETH. Breeding colonies on Dovey Estuary (Feilden and Forrest); Towyn (Jourdain, Kirkby, and others); Mochras (Pearse and others). In 1903 all left there by 27th July (Attlee). Penrhyndeudraeth, the most abundant of the Terns, breeding in many places along the coast (Salter and Haigh). Occasional on Bala Lake; three seen Llandderfel, 4th September, 1898 (Ruddy). Colonies from two or three pairs upwards along coast between Talybont and Artro Estuary; exact position and number varies from year to year (Aplin).

MONTGOMERY. Not recorded.

222.—SABINE'S GULL. *Xema sabinii* (Joseph Sabine).

Rare autumnal visitor to the coasts.

Dr. W. H. Dobie records in his list an immature example in the possession of Mr. Wallace, of Chester, that was shot at Mostyn during the last week of October, 1884. Professor Salter states that no less than nine were obtained near Aberystwyth during the gale of 24th to 26th September, 1896. Although just outside our district, these birds may fairly be claimed for North Wales since they must have passed over it during their passage southwards.

223.—LITTLE GULL. *Larus minutus* Pallas.

Occasional visitor, rare ; has been met with on south-west and north coasts.

This pretty little species occurs but rarely on the coast of Merioneth, and along the north coast to the Dee Estuary, in the winter months. Mr. F. C. Rawlings mentions several at Barmouth in the severe weather of March, 1886. In the *Zoologist*, 1895, p. 250, one is reported as having been seen by Captain G. W. Cosens, at Glandovey, on the Dovey Estuary, whilst Mr. F. T. Feilden informs me that early in 1901 he picked up another dead in the same neighbourhood. The first of these two was in adult plumage and exhibited the black underside of the primaries. Dr. W. H. Dobie records, on the authority of the late Wm. Thompson, taxidermist, Chester, that "several specimens were shot about 1869, on the Wild Marsh, Queensferry." Dr. W. B. Russell tells me that he saw one in February, 1898, that had just been shot by Mr. Willoughby Low at Colwyn Bay ; its breast was delicately tinged with rose-colour. Mr. Victor Wilson says he has one which he shot out of three on the Dee marshes, 19th November, 1901.

224.—BLACK-HEADED GULL. *Larus ridibundus* Linn.

GWYLAN BENDDU = Black-headed Gull ; GWYLAN GOESGOCH = Red-legged Gull ; BRÂN Y MÔR = Sea-Crow ; "Peewit Gull."

Resident and common on the coasts ; several breeding colonies on inland moors.

This is one of the most numerous of the gulls in North Wales, and is common on all the flat coasts and estuaries from

autumn to spring. In summer, however, the bulk of the birds resort to their inland breeding places, only visiting the shores irregularly. Even then, however, it occasionally appears on the shore in large numbers, as, for example, on 10th July, 1903, when the whole Estuary of the Dovey was dotted with them—certainly over one thousand birds.

In many respects the Black-headed Gull is less maritime in habits than any other of the *Laridæ*. In North Wales it rarely breeds near the sea, though Dr. Dobie mentions a solitary nest found at Point of Air, about 1870, by Sir Piers Mostyn. Pennant states that in his day it used to breed on Llyn Conway and Llyn Llydaw, Carnarvonshire, whilst the author of Martin's *Wanderings in North Wales* (1864) adds that "near Beddgelert, on a little mountain tarn, is a marvellous colony," yet A. G. More stated in his list that it was not known to breed in North Wales. These ancient breeding places are now deserted, and as few or none of the present colonies are old-established, it is evident that the birds shift their quarters from time to time.

At present the largest colony is at Llyn Mynyddlod, a small mountain lake on Sir Henry Robertson's estate, near Bala. I have had the pleasure of visiting it several times in company with Mr. T. Ruddy, to whom I am indebted for the following history. The gullery commenced with two pairs of birds in 1888. The tarn had just been deepened by building a dam across the outlet, which had the effect of raising the level of the water and causing it to overflow a tract of marshy land at the farther end, thus forming a number of marshy islets inaccessible from the bank, and on these the gulls found safe retreat. In 1889, ten pairs nested there; in 1890, there were over a score of nests, and the numbers increased steadily year by year till now there are many hundreds. The shores round the farther end of the marsh are exceedingly boggy, so that it is impossible to get a footing within many yards of the birds, yet they carefully avoided placing their nests on any ground not entirely surrounded by water until compelled



Llyn Mynyddlod, near Bala—Breeding Haunt of Black-headed Gull.

Photographed by R. J. Iewin.

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by overcrowding of the islets, every foot of which was occupied by nests. It was only in June, 1904, that I first noted any number of nests along the outer margin of the lake, and by that time the colony had increased to quite two thousand birds. So secluded is this gullery that the birds are rarely disturbed by man, but, should anyone appear, they all rise in a cloudy mass, filling the air with harsh cries of anger, and they will not re-settle till the intruder withdraws. A charming spectacle, indeed, is the assemblage of these gulls on the wing, their snowy plumage glistening in the sunlight with a brilliancy almost dazzling.

They usually arrive at this breeding station about the end of February and remain till August. Just at first they resort to Bala Lake, and at night roost on the water towards the middle of the lake. Throughout the season some are always to be seen on Bala Lake as well as all along the Dee Valley as far even as Llangollen. Lately they have earned the animosity of the fishermen on Bala Lake by devouring all the Mayflies there as soon as they appear. The Black-headed Gull is largely insectivorous, and I have seen it near Corwen hawking for moths in the dusk like a Nightjar. Parties forage for food all round the gullery, but although the sea is thirty miles distant, they also make frequent excursions thither to fetch shrimps, etc., to feed the young. This has been proved by examination of the contents of the crops of birds killed at the gullery. Adults begin to resort to the west coast in increasing numbers from mid-June onwards.

So far as I can learn there is now no gullery in Carnarvonshire. In Anglesey Messrs. Coward and Oldham report a colony on an island in a lake in the west, which numbered about five hundred birds in 1904. The following year Mr. Oldham found a colony in Denbighshire at Llyn-y-foel-frech, a small, shallow lake at an altitude of about 1250 feet at the head of the Aled Valley. The water is a good deal overgrown with *Equisetum* and coarse rushes, the nests being

all in the latter, many of them with foundations of strong ling-stems. There were about four hundred pairs of old birds there, and most of the nests contained young of various ages on June 11th. The colony is said to have started only five or six years before with two or three pairs. The history of several other colonies in Denbigh and Flint is similar. Thus Mr. Congreve reports a gullery on a very small tarn near Denbigh which, beginning with two pairs in 1900, increased to four or five pairs in 1902, and some sixty birds in 1904. On the other hand a breeding place near Llanrhaiadr, Denbigh, is now deserted. A gullery near Bodidris, Mold, is described by several observers as having been occupied for a good many years. It is on a mountain tarn, the nests being on rushy tussocks around and in the water, and some 150 pairs resort thither, though the actual numbers fluctuate from year to year. The birds from this colony are frequently seen on the River Alun taking the Mayfly and other aquatic insects.

Mr. G. H. Caton Haigh states that a few pairs used to breed on Mochras, near Harlech, but he thinks they have ceased to do so. When Mr. Aplin was on the marsh there on 13th May, 1905, however, an adult bird in full dress was very noisy overhead, behaving just as it would at the breeding place. This shows a disposition to return to the old haunt, if such it be. There is no breeding place in Montgomeryshire, but Black-headed Gulls frequently visit Lake Vyrnwy and other sheets of water in the county.

All these inland haunts are deserted early in the autumn, when the Black-headed Gulls resort to the coasts all round North Wales. In the winter months they are more widely distributed near the sea than at any other season. Thus in February, 1903, Mr. O. V. Aplin noted them as very numerous in Lley, and some even thus early in the year had dark hoods.* This assumption of breeding plumage usually takes place early in March, but occasionally in the beginning of

* *Zoologist*, 1904.

January, and the dark hoods are lost by many of the gulls before they leave the nesting places.

Throughout the summer months a few adults are to be met with in scattered localities far from any gullery. Possibly these are non-breeding birds; but since we have seen that the gulls travel over thirty miles to procure food for the young, it is quite possible that these isolated individuals belong to some far-distant colony.

225.—COMMON GULL. *Larus canus* Linn.

GWYLAN GYFFREDIN = Common Gull; GWYLAN LWYD = Grey Gull; GWYLAN Y GWEUNYDD = Meadow-Gull.

Common on the coast from autumn to spring, but does not breed in North Wales.

The epithet "Common" as applied to this species is somewhat unfortunate, and has led to great confusion; for, although during the winter months this gull is fairly numerous, at no time of the year is it as plentiful as the Herring-Gull.

The authors of the various *Llandudno Guides* fall into the error of describing the Common Gull as a resident species, and as breeding on the Orme's Heads, and the mistake frequently recurs, even at the present day. Many people evidently fail to discriminate between the Common, Herring, and Kittiwake Gulls. The two latter breed regularly on the Little Orme's Head—the former never. The Herring-Gull is easily recognized by its superior size and flesh-coloured feet. The Kittiwake and Common Gull are almost alike in size; but the former has black feet, the latter greenish. In habits these two differ considerably; for, whilst the Kittiwake keeps almost entirely to the sea, the Common Gull feeds much on land; indeed, it may often be seen in considerable flocks on newly-ploughed fields, searching for worms, etc., that have been brought to the surface.

The Common Gull usually appears in our district during September, and remains till April or May, the head at this season being flecked with ashy-grey. Here and there a few odd birds may be seen during the summer months; but these are, as a rule, immature, and there is no evidence that the Common Gull has ever bred in North Wales. Very occasionally adults have been seen in summer plumage—the head pure white—at the end of July or early in August; but these are doubtless early migrants from the north.

ANGLESEY AND CARNARVON. Common in winter (many observers).

DENBIGH AND FLINT. Along the coast common in autumn and winter, and frequently seen inland in rough weather (Dobie's list). Common on Dee Estuary (Brooke, Congreve, and V. Wilson). Adult, Saltney, 13th August, 1903; several 25th and 26th July, 1905 (Cummings). Llanarmon, Mold, flocks come up to feed (Morgan).

MERIONETH. Common in autumn and winter. Several inland at Towyn, 26th April, 1905 (Forrest). Penrhyndeudraeth, a few young birds remain through the summer (Haigh). Comes up the Traeth Bach sometimes to Ffestiniog (Morris).

MONTGOMERY. Adult in winter plumage shot at foot of the Breidden early in October, 1901 (Forrest).

226.—HERRING-GULL. *Larus argentatus* J. F. Gmelin.

GWYLAN Y PENWEIG = Herring-Gull; GWYLAN LWYD = Grey Gull.

Abundant on the coasts; breeds on islands and coasts of Anglesey and Carnarvon.

This is by far the most generally distributed of the gulls on the shores of North Wales at all seasons, though in some parts it is at times outnumbered by the Black-headed Gull. Eyton states that it "breeds plentifully along the whole line of the Welsh coast," but this statement requires modification,

for the Herring-Gull has no breeding station in Merioneth, Denbigh, or Flint, though the bird is common enough. On the other hand, it has many breeding places round the coasts of Carnarvon and Anglesey, and is especially numerous on Bardsey and the Gull Islands, Puffin Island, and the Orme's Heads. Mr. O. V. Aplin remarks that the adults frequent the breeding-places in winter more than other gulls, whilst in summer many immature birds and some adults spend the season in west Merioneth where there are no breeding-places.

The Herring-Gull is, to a great extent, a littoral species, and obtains most of its food from sandy shores by following the ebb-tide. Examination of its castings has proved that the food consists mainly of crabs, starfish, mussels, and other sea animals found in the tideways, the proportions varying according to season and locality. In fact the Herring-Gull is a general scavenger, and will eat carrion or any other animal matter that comes in its way. It is not even restricted to the vicinity of the sea, for it frequently visits inland moors and lakes, and resorts to ploughed lands in search of food, especially in autumn.

In winter Herring-Gulls migrate southwards overland, generally in flocks of twenty to fifty birds. At such times they fly high in the air, and rarely alight on the way unless it be on some inland pool for a few hours. They are seen then daily in the mere district round Ellesmere, and are frequent in other parts of Shropshire.*

In his *History of Aberconwy* Rev. R. Williams describes the Herring-Gull as breeding on the Orme's Heads, adding that "three eggs are invariably found in the nest." This, of course, is frequently but by no means always the case. Speaking of Lleyn, Mr. O. V. Aplin says that with two exceptions there were only two eggs in any nest in the third week of May, 1900. Nevertheless he considers three the normal clutch in Wales. In June, 1903, I visited Puffin Island, and on the 10th of that month most of the nests

* Cf. Chapter on Migration Routes.

contained young, a large proportion containing three in the nest. The Herring-Gull is not careful to choose inaccessible places for the nest. Many are to be found on the turf at the top of cliffs, and as the eggs are very good eating it is a common practice with farm labourers and others to collect them for this purpose. The eggs have a slightly fishy flavour, but this disappears, as it does in the eggs of the Guillemot and many other sea-birds, if they are buried in earth for twenty-four hours.

Stanley, in his *Familiar History of Birds*, describes the old breeding-place on the South Stack, and how the gulls left when the lighthouse was being built in 1808, all but one pair which remained in spite of the din and crowd of men. At the present day I find there are generally a few pairs there.

Under the head of Peregrine Falcon, I have described the behaviour of the Herring-Gulls towards that bird of prey on the Little Orme's Head. There is perhaps no spot in North Wales where so great a variety of sea-birds may be studied to such advantage as here. Dr. W. B. Russell once saw a Herring-Gull vigorously pecking at the back of a Cormorant which was trying to swallow a flatfish almost too big for its throat. On the whole, though, the Herring-Gull is a peaceable bird, and the beauty of its snowy plumage is one of the greatest charms of our coast scenery.

227.—LESSER BLACK-BACKED GULL.

Larus fuscus Linn.

GWYLAN GEFNDDU LEIAF = Lesser Black-backed Gull.

Fairly common on the coasts as a resident or partial migrant ; few breeding places.

The Lesser Black-backed Gull is not so numerous in North Wales as might be expected considering the frequency of its



ROCKS AT THE SOUTH STACK—Where Guillemots Breed.

Photographed by T. J. DAVIES.]

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occurrence in Shropshire. From observations in that county I have come to the conclusion that both this species and the Herring-Gull regularly migrate southwards in autumn, passing from the Dee Estuary over the flat parts of Flintshire and North Shropshire into the valley of the Severn, which they follow right down to the Bristol Channel. The return passage northwards in spring is not so marked, and the bulk of the birds return by some other route, probably up the west coast.

The Lesser Black-backed Gull is certainly more numerous in North Wales during autumn and spring than at other seasons, whilst only a comparatively small number remain to breed. Indeed, during summer its breeding range seems to be curiously restricted. Outside our district there is a large colony on Tregaron Bog, Cardiganshire, but, with the doubtful exception of the borders of the Dovey Estuary, there is no breeding station on the west coast all round Cardigan Bay. The only Carnarvonshire station is the Little Orme's Head. The largest breeding colony is on the south side of Puffin Island; a few pairs also breed in north Anglesey, and perhaps on one or two of the neighbouring islands. None are known to nest anywhere along the coasts of Flint or Denbigh.

This gull is seldom seen inland except as a passing migrant, when it keeps steadily on its course, rarely alighting to feed. Although its route at such times is usually across lowlands, it sometimes crosses the mountains. Mr. Ruddy saw a party of fifteen which came over the Berwyns from south to north on 18th April, 1903, and there is little doubt they had come from Montgomeryshire, or had passed over that county *en route*.

The nest and eggs of this gull resemble those of the Herring-Gull. In choosing a site it selects indifferently grassy slopes above cliffs, or boggy ground inland or near the sea: it has been stated that this species never nests actually on sea cliffs, but it undoubtedly does so on Puffin Island and in north Anglesey.

ANGLESEY. In May, 1901, about twenty sitting on stacks south of Aberffraw; breeds Puffin Island, a good many pairs there 10th June, 1903 (Forrest), also near Bull Bay; two pairs in May, 1904 (Cummings). A fair number seen Penmon; breeds Puffin Island, but not near Holyhead; one with Herring-Gulls on Middle Mouse, June, 1903 (Coward and Oldham).

CARNARVON. Seen Pwllheli (McAldowie, and Ray *Third Itinerary*, 30th May, 1662). Not at all common in Llyn in summer, but seen plentifully on the north coast by Mr. Coward (Aplin). A few pairs on the Little Orme's Head (Hutchinson). Breeds on the Orme's Heads (*History of Aberconwy*, 1835). Seen on Little Orme in breeding season (Russell).

DENBIGH AND FLINT. Common on coast, but less general than the Herring-Gull (all observers).

MERIONETH. Often seen on the coast (many observers); probably breeds on the Gors Fochno (Salter). Penrhyndeudraeth, many pass over going north in April, rarely seen at other times (Haigh). Llandderfel, small flocks pass over occasionally (Ruddy). On 11th May, 1904, six flying towards a wet boggy part of the moor near Llyn Mynyddlod, a possible breeding place (Aplin).

MONTGOMERY. Not recorded, except as noted above.

228.—GREAT BLACK-BACKED GULL. *Larus marinus* Linn.

GWYLAN GEFNDDU FAWR = Great Black-backed Gull; Y WYLAN DDU A GWYN = Black-and-White Gull; COPSYN = The Top; COPSYN Y MOR = Sea-chief.

Fairly common in winter. One or two pairs nest in scattered localities in the west.

The writer of Martin's *Week's Wanderings in Wales* (1864), says: "About the shores of Anglesey and Carnarvonshire the huge Black-backed Gull may often be heard giving vent to his harsh croak long before the eye perceives him circling high in the air. . . . Nests may be found at various places in the mountains and at the mouth of the River Ogwen." The flight of this fine species is full of

majesty. A single individual is generally to be seen consorting with the Herring-Gulls on the Orme's Head, tyrannizing over them and robbing them at will. It is of far less sociable habits than other gulls, especially during the breeding season when generally each pair retires alone to its nesting place, though now and then two pairs associate together for nesting. The site selected is generally some small island either in the sea or in a mountain tarn, but some of the inland resorts have been so harried of late years by egg-collectors that they are now deserted.

Pennant visiting Llyn Conway in 1773 writes: "In it are three islands, one of which is the haunt of the Black-backed Gulls during the breeding season. They are so exceedingly fierce in the defence of their young that I knew of a man who was nearly drowned in an attempt to swim to their nests, being so violently beaten by the old birds that he thought he escaped well with the dreadful bruises he received on all the upper part of his body." Further on Pennant mentions these gulls breeding on a little island in Llyn Llydaw and breaking "the silence of this sequestered place by their deep screams."

Although the Great Black-backed Gull is common on the north coast in winter it seems to have no breeding places in Flint or Denbigh, nesting only in the western half of North Wales. A. G. More marks it as breeding in the district, but gives no details. This gull is very rarely met with inland on the English border, and does not follow the autumnal migration route down the Severn Valley taken by some other gulls.

ANGLESEY. Nest on Ynys Trefriw, 1904, and two pairs on Middle Mouse, 1905 (Cummings). Aberffraw, used to nest on Ynys Trefriw, nest seen 1886-7, and probably still does (Gosling); have seen nest there; birds seen Penmon Point June, 1903 (Forrest). Two pairs nested Pen y parc, 1904 (Coward and Oldham). Said to breed near South Stack, but have never observed it; my specimen obtained feeding at a dead horse near Holyhead (Eyton). Nested annually Ynys y Meibion, near Llangwyfan, up to early nineties (Oldham).

CARNARVON. Used to breed on Llyn Conway (Wayne), on the lakes of Snowdonia (Price, *Llandudno Guide*) and St. Tudwal's (Forrest); two pairs there June, 1891 (Blagg). Resident in Llyn; has nested in former years on St. Tudwal's and more recently on a stack off the mainland, opposite Bardsey; also on Ynys Gwylan Fach and on Bardsey; eggs on both in 1900-1-2; two adults Llyn Ogwen, 18th May, 1905 (Aplin). Pair used to nest at Nevin (Haigh).

DENBIGH AND FLINT. Not uncommon in winter on the coast (all observers).

MERIONETH. Towyn, found nest once near Dysynni River; breeds Talsarnau nearly every year (Kirkby). Commoner than the Lesser Black-backed Gull at Barmouth; nests on islands in the lone tarns (Rawlings), but the inland nesting-places are being sadly reduced by the continual egg-collecting; pair breed every year on a llyn near Barmouth (Jourdain and Wayne).

MONTGOMERY. Newtown, driven in by storms occasionally (Williams), and Llansantffraid; pair seen going up Meifod Valley, 17th August, 1904 (Kempster).

229.—GLAUCOUS GULL. *Larus glaucus* O. Fabricius.

Rare winter visitor.

This fine species is only an occasional winter visitor, and the few recorded have all been immature birds. It has been seen on the Dovey Estuary by Mr. F. T. Feilden, and on the Conway by Mr. W. B. Halhed. An example from the last-named district was in the collection of the late Mr. J. C. Stevens, of Chester. Mr. Rawlings records several immature birds procured at Barmouth during severe frosts, whilst further north Mr. G. H. Caton Haigh shot one on the Traeth Bach, 25th March, 1892. The only inland example recorded is an immature bird in the possession of Captain Wm. Buckley, which was shot at Llanwddyn in the winter of 1874.

230.—ICELAND GULL. *Larus leucopterus* Faber.

Rare winter visitor, recorded only from the Dovey Estuary district.

About 1st November, 1894, Mr. F. T. Feilden obtained an immature Iceland Gull near Borth, whilst Professor Salter records in the *Zoologist*, 1895, p. 250, that a few years previously Iceland Gulls were plentiful off Aberystwyth after severe gales. Although this locality lies just outside the strict limits of North Wales, these examples may fairly be claimed for that area since they must have passed over it in order to reach Aberystwyth on passage from their northern home. Mr. H. Franklin, of Shrewsbury, has two immature examples which he shot himself on the sea-shore at Towyn about 1870, the morning after a tremendous gale.

231.—KITTIWAKE. *Rissa tridactyla* (Linn.).

GWYLAN BENWEN = The White-headed Gull; GWYLAN DRI
BYS = The Three-toed Gull; GWYLAN GERNYW = Cornish Gull.

Common resident on the coasts; breeding in south-east Anglesey and at several places in Carnarvonshire.

The Kittiwake is more maritime than the majority of the gulls, spending most of its time on the water, and rarely travelling inland except when storm-driven.

Eyton describes it as common in North Wales, but does not expressly state whether or not it breeds there. A. G. More marked it in his list as not known to breed there, yet as long ago as 1835 the Rev. Robert Williams had written* of the Orme's Heads: "The lower shelves of the rocks are occupied by the Kittiwakes, where they make their nests of

* *History of Aberconwy.*

seaweed and tang, generally by the side of each other, without mingling with the other gulls." To this day the species still nests at the foot of the Little Orme's Head, but the numbers appear to fluctuate considerably, and in some years there are very few. There is a good-sized colony on Puffin Island, with a branch on the adjoining headland of Penmon. There is no other station in Anglesey, but there are colonies at Nevin and Cilan Head, and one or two other stations in Lleyn.

Kittiwakes always breed in company, the nests being placed close to one another on narrow ledges near the foot of some cliff overhanging the sea. They are usually difficult of access from above, and often can only be reached by using a boat. When sitting, the Kittiwake becomes remarkably tame, and will remain on the nest until one is almost within arm's length.

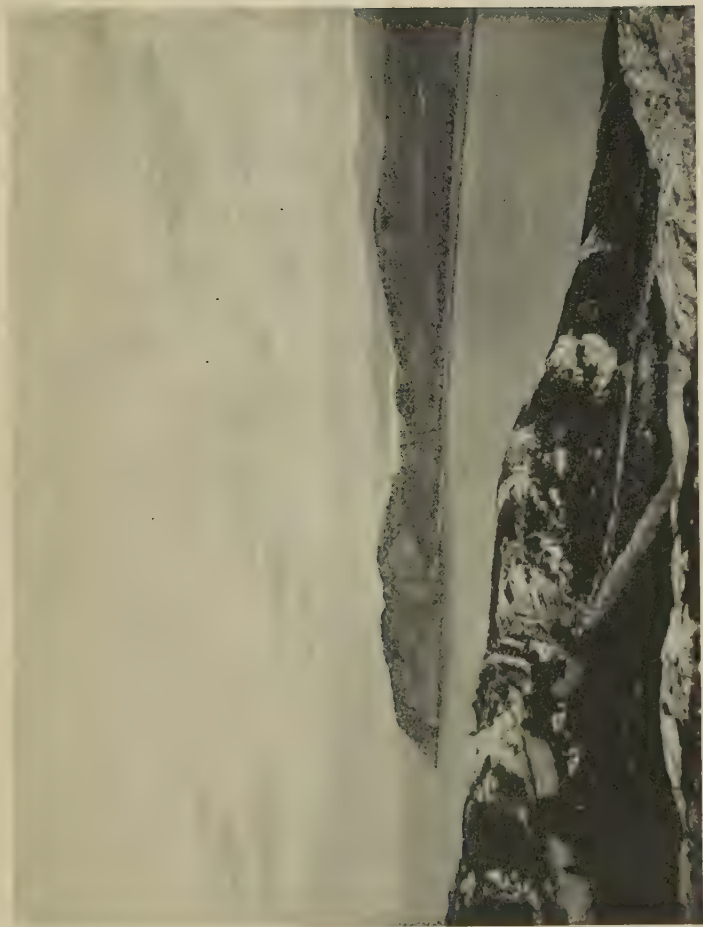
The Kittiwake is common, especially in winter, on many parts of the coast where it has no breeding station, and there is little doubt that its numbers are increased at that season by immigrants.

Pennant, in his *Tour in North Wales*, mentions that in February, 1776, a gale accompanied by intense frost killed an enormous number of sea-birds, their bodies strewing the coast by Criccieth for many miles. They were principally Puffins, Razorbills, Guillemots, and Kittiwakes (of the latter many thousands); also Gannets, Wild Geese, Bernacle Geese, Scoters, and Tufted Ducks.

ANGLESEY. Frequent Holyhead (Edwards and Marshall), but does not breed in district (Coward and Oldham). Breeding colony on Puffin Island and a few on Penmon Point (Forrest).

CARNARVON. Two breeding places in Lleyn; not at all numerous in winter; frequent on St. Tudwal's, but does not breed there (Aplin). Numbers breed on the Bird Rock, Nevin (Forrest). Several colonies on Cilan Head (Cummings, Constable and Savage). A few pairs breed on Little Orme (Hutchinson).

DENBIGH AND FLINT. } Common on coast and estuaries, but does
MERIONETH. } not breed in these counties (all observers).



THE LITTLE ORME'S HEAD — Historic Breeding-place of the Black Guillemot.
Photographed by J. W. HEATH. [To face page 392.]

[IVORY GULL. *Pagophila eburnea* (Phipps).

Exceeding rare visitor to the Aberystwyth district.

Professor Salter records that Hutchings, the Aberystwyth taxidermist, has preserved one, if not two specimens during the past thirty years. Whether either was obtained within the limits of *North Wales* is not known.]

[GREAT SKUA. *Stercorarius catarrhactes* (Linn.).

Reported several times, but no specimen obtained.

This species is reported as having been seen off Barmouth during the herring-fishing season by Mr. F. C. Rawlings, and off Aberffraw by Mr. E. Gosling, but these records can only be accepted as doubtful. Brockholes writes: "I have seen a Skua which was most probably of this species at New Ferry." Mr. O. V. Aplin informs me (*in lit.*, 20th August, 1904) that on 18th October, 1884, he saw a bird at Llanaber which he believed to be a Great Skua: "It was with a flock of gulls on the sands, very dark brown, and about the size of a Herring-Gull. When they rose it went off by itself with a very swift flight—longish, rather pointed wings."]

232.—POMATORHINE SKUA *Stercorarius pomatorhinus*
(Temminck).

GWYLAN FRECH = Spotted Gull.

Occasional visitor to the coasts in spring and autumn.

From time to time examples of this Skua, mostly immature, are met with on the coasts in spring and autumn, especially after gales in October.

Dr. W. E. E. Kershaw tells me that it occurs now and then on the Dovey Estuary, whilst Professor Salter thinks that "most of the Skuas which are seen after rough weather in autumn are probably of this species." Mr. F. C. Rawlings procured one in full plumage at Barmouth in May, 1893. About Penrhyndeudraeth, Mr. G. H. Caton Haigh reports the Pomatorhine Skua as occurring at both periods of migration; one was seen there 28th May, 1890, and on 25th October, 1898, a young bird dropped on to his lawn at Aberia, and allowed itself to be caught; on 15th December the same year the remains of another that had been dead a long time were found on the marsh at Ynysfor. Dr. W. H. Dobie in his list, mentions an immature bird in the Chester Museum which was shot at Queensferry, on the Dee Estuary, 20th October, 1890. Byerley in his *Fauna of Liverpool*, mentions one shot at Hoylake on the Dee Estuary in September, 1852, by Mr. H. Crump. An immature bird in the possession of Mr. A. Gwynne Vaughan of Builth was obtained at Llanidloes, Montgomeryshire, 4th October, 1895—the only example met with inland. The author of Martin's *Week's Wanderings in Wales* (1864) writes: "The Brown Skua or Seahawk comes to the Menai Straits occasionally."

233.—ARCTIC OR RICHARDSON'S SKUA. *Stercorarius crepidatus* (J. F. Gmelin).

GWYLAN GYNFFONHIR = Long-tailed Gull; GWYLAN DROED-
DDU = Black-toed Gull.

Occasional visitor, chiefly to the western coasts and estuaries.

Although by no means common, this species has been noted in the west more frequently than any other Skua, and has occurred on at least two occasions in summer. It has also been obtained several times far from the sea in Montgomeryshire.

On the other hand, it has not been recorded anywhere on the north coast except the Dee Estuary, so that both in time and place its visits are remarkably erratic.

ANGLESEY. A bird of the year shot near Maelog Lake by Mr. John Barsham in October, 1885 (*Field*, 17th October, 1885). A specimen in own possession obtained at Treiorwerth (Wrigley). Occasional Aberffraw (Gosling).

CARNARVON. One flying about at Pwllheli in June, 1902; one picked up on the shore there 12th July, 1903, had not been long dead (McAldowie).

DENBIGH AND FLINT. An adult and an immature example shot on the Dee Estuary during a gale in October, 1903; in own collection (Brooke).

MERIONETH. Dovey Estuary, occurs less commonly than the Pomatorhine Skua (Salter). One seen hawking in 1898 (Kershaw). One obtained there in October, 1895 (Feilden). One found exhausted in field near the sea, Towyn, 1896 (Kirkby). Occasional Barmouth (Rawlings), Penrhyndeudraeth; pair on the Traeth Bach, 9th May, 1897, and single bird, 20th May, 1899—all dark birds (Haigh). One picked up Ynysfor (Evan B. Jones).

MONTGOMERY. Two shot near Llanfair Caereinion in 1882 (Lort). One shot by Lord Powis some years ago (Lees).

234.—LONG-TAILED OR BUFFON'S SKUA.

Stercorarius parasiticus (Linn.).

Recorded only once, on the north coast.

Dr. W. H. Dobie records in his list "an immature specimen shot by Mr. R. H. Venables Kyrke, at Foryd, near Rhyl, in 1869, and presented by him to the Grosvenor Museum, Chester."

235.—RAZORBILL. *Alca torda* Linn.

LLURSEN OR LLURS = Razorbill; MORRA = The bird's guttural cry; GWALCH Y PENWEIG = Herring-Hawk; CARFIL GYLFIN DU = Big Black-bill; BILI DOWCAR = "Billy dowker."

Breeds on precipitous coasts: common at sea all round the coast, especially in the west.

As a breeding species, the Razorbill is confined to such parts of the coasts as are precipitous and present suitable ledges. There are colonies scattered all round Carnarvonshire from Llanbedrog to Nevin, as well as on St. Tudwal's, Bardsey, and other islands. There are also colonies on both the Orme's Heads. A good many breed on Puffin Island—a fact mentioned by Ray in his *Third Itinerary*—as well as on the adjoining mainland of Anglesey, whilst at the South Stack it still breeds, though in gradually diminishing numbers. There are no suitable cliffs along the coasts of Merioneth, Denbigh, or Flint, though there, as elsewhere, Razorbills are commonly to be seen swimming and diving in the sea. Mr. V. Wilson says at times there are numbers in the Dee Estuary.

Razorbills and Guillemots are very usually found breeding in the same localities, but each species presents marked peculiarities of habit. Razorbills prefer overhung crannies in the cliff-face; Guillemots crowd the open ledges as closely as possible. Each lays but one large egg, placing it on the bare rock, with no pretence at a nest; but whilst the Guillemot stands upright with the egg between its legs, the Razorbill sits on the egg lengthwise in a semi-recumbent posture.

The majority of both species are migratory, comparatively few staying for the winter months, and those which do remain seem to spend their time mostly on the water. Sometimes

numbers are destroyed by heavy gales, as mentioned under the head of the "Kittiwake." In 1903, I found the dried bodies of nearly fifty Razorbills along a stretch of one mile of beach to the east of Criccieth. Mr. O. V. Aplin found a two-year-old one, "little more than skin and bone," after a gale at Pwllheli, 5th February, 1903. At Criccieth the proportion of dead Razorbills to Guillemots was nearly three to one, although at all the breeding places I have visited the Guillemot was far the more numerous of the two. Judging by this it would seem that more of the former winter here than the latter. Where do all the others winter? No one seems to know exactly, but it is generally believed that they resort to the open sea, and move southwards to some extent. It is recorded in the *B.A. Migration Reports* that in 1885 hundreds came to St. Tudwal's on 14th April and left on 14th August. Guillemots came and left at the same time, an advance party of two hundred of these arriving at sunrise on 12th March.

236.—COMMON GUILLEMOT. *Uria troile* (Linn.).

GWILYM = William; GWYLOG, or CHWILOG = Guillemot; HELIGOG = Sea-Cuckoo; ARRON (Lleyn) = The bird's guttural cry.

Breeds on precipitous coasts; common at sea all round the coast, especially in the west; the "ringed" variety occurs but rarely.

The Rev. Robert Williams, in his *History of Aberconwy*, 1835, writes of the Guillemot as breeding very numerous on the rocks off Llandudno. He describes the taking of the eggs to sell as delicacies for the table at about 2s. 6d. a dozen, the usual plan of one man lowering another over the cliff by means of a long rope being adopted to procure them. He concludes: "The birds return to the same haunts, but they are not nearly so numerous now as formerly, owing to the incessant removal of their eggs. About thirty years

ago two men were killed by being precipitated down the rock. This deterred the gatherers from their usual employment for several seasons, and the birds increased in a short time to an immense number."

At the present time the Guillemot breeds in very large numbers round the base of the Little Orme's Head, whilst the Great Orme harbours some hundreds more. Briefly, it may be said that the distribution of the Guillemot during the summer is identical with that of the Razorbill, but the former is far the more numerous. Mr. O. V. Aplin observed four in winter dress at Pwllheli on 1st February, 1903. He also noted a single example of the "Ringed Guillemot" in Lley, whilst Mr. Caton Haigh has met with the same variety once or twice at Penrhyndeudraeth.

At Holyhead and some other places this bird goes by the name of "Elegug," whilst in Lley it is called "Arron." The latter name is evidently from its guttural cry; but the former was a puzzle in etymology until Mr. Aplin suggested that it was a corruption of "Heligog" = Sea-Cuckoo. The allusion is probably to the fact that the Guillemot resorts to and quits its breeding quarters at the same time that the Cuckoo arrives and departs.

Ray, in his *Third Itinerary* mentions "Guillems" on "Prestholm" (= Puffin Island).

237.—BLACK GUILLEMOT. *Uria grylle* (Linn.).

GWILYM DU = Black William; CHWILOG DDU = Black Guillemot.

Rare visitor to west Anglesey and Merioneth; formerly bred on the Little Orme's Head.

In view of the fact that the Black Guillemot breeds regularly on the opposite coast of Ireland, its scarcity in North Wales is very remarkable. In modern times there are only three records of its occurrence, though a century ago it was

apparently a denizen of the Orme's Heads. Speaking of these headlands Pennant says: "The *Falco peregrinus* builds annually on these rocks, and several other birds. The Gulls possess the lowest part; above them the Razorbills and Guillemots have their quarters; over these croak the Cormorants, and Herons occupy the highest regions; scattered in different parts are a few Puffins and Black Guillemots." He also mentions that in his day the Black Guillemot bred in Anglesey. The statement as to its breeding on the Little Orme is repeated in the *History of Aberconwy* (1835) and in John Price's *Llandudno Guide*: both authors agree that the breeding place was at the west end of the Head.

Mr. E. Gosling informed me that a Black Guillemot was shot from a boat in Aberffraw Bay by the late Dr. Llywellyn Thomas in 1882. Mr. G. H. Caton Haigh records in the *Zoologist*, 1895, p. 22, finding a dead one on the Traeth Bach, 11th November, 1894. Mr. S. G. Cummings reports seeing an adult on Llanddwyn Island, west Anglesey, in company with Common Terns on 5th and 7th June, 1901; the lighthouse keeper had not seen the species in previous years, but this individual bird stayed there a long time in 1901. Llanddwyn is, curiously enough, the breeding place in Anglesey to which Pennant alludes. Mr. Victor Wilson states that he has a specimen which he obtained at Dawpool on the Dee Estuary, 18th January, 1904. It is a male and was accompanied by another which may have been its mate.

238.—LITTLE AUK. *Mergulus alle* (Linn.).

CARFIL BACH = Little Auk; PENGWYN BACH = Little Penguin (or Little White-head).

Rarely met with alive, but dead ones are often thrown up on the coasts during gales.

In North Wales, as in many other parts of Britain, the

Little Auk appears to be only an accidental visitor, resorting to the shores when driven in by stress of weather during winter. That it is but an unwilling guest is indicated by the fact that in most instances it is dead when found. Mr. V. Wilson states that sometimes during very cold, rough weather, Little Auks appear in the Dee Estuary; a specimen in his collection he shot as it floated down on the tide one afternoon.

ANGLESEY. One or two at Aberffraw after long-continued gales (Gosling). Obtained twice in Anglesey (Priestley).

CARNARVON. Has occurred on Llyn Dinas (Priestley). Occasionally thrown up dead in Llandudno Bay (Moore). Often observed uttering a soft, oft-repeated plaintive cry in the depth of winter (Price, *Llandudno Guide*).

DENBIGH AND FLINT. Occasionally off the mouth of the Clwyd (Wrigley). Have been picked up dead at Pensarn (Dobie's list). Shot once and seen twice Dee Estuary (V. Wilson).

MERIONETH. Barmouth, many washed ashore dead in 1877 (Rawlings). Penrhyndeudraeth, 24th February, 1887, one diving within gunshot of the house, south-west gale blowing (Haigh). Obtained Towyn (H. Franklin), and picked up dead Aberdovey (Jackson).

MONTGOMERY. Not recorded.

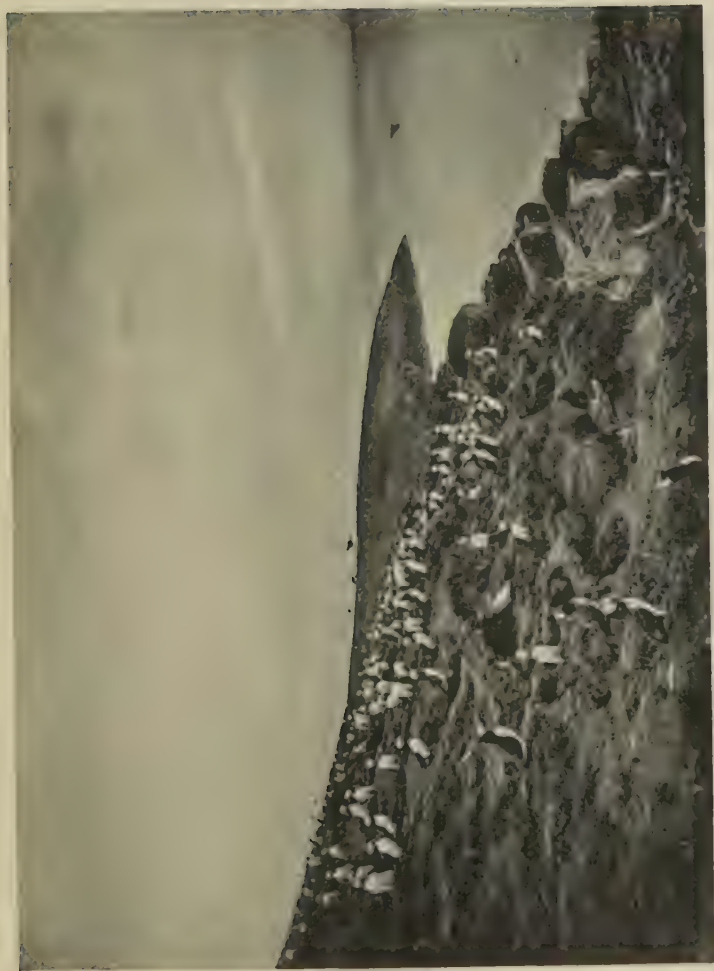
239.—PUFFIN. *Fratercula arctica* (Linn.).

PAL = "Polly" ("Sea-Parrot"); PWFFIN = Puffin.

Numerous in summer, and breeds round Carnarvonshire and Anglesey; rare in winter.

Priestholm, or Puffin Island, off the south-east corner of Anglesey, has long been noted as a breeding place of the Puffin, though the prosperity of the colony has suffered strange vicissitudes. John Price* states that at one time it

* *Llandudno Guide*, p. 100.



PUFFINS ON ST. TUDWAL'S—Coast of Lleyln in the distance.

Photographed by H. E. FORREST. [To face page 400.]

was exterminated by shipwrecked rats. Later on—in the eighties—the island was for several years entirely deserted by Puffins, but was afterwards resorted to by the birds in considerable numbers, though even now they fluctuate in an unaccountable manner. Thus in 1903 I reckoned there were less than fifty pairs; in 1905 I heard that they were again very numerous; whilst on re-visiting the island in May, 1907, I found they numbered at least two thousand. Many old writers mention the regular “farming” of the birds on this island. “A great number of the young birds are annually taken, and being enclosed in small casks are pickled without the bones, and are esteemed a great delicacy.”* The Puffins “make their appearance in the beginning of April. The males and females sit alternately, and are remarkable for the courage with which they defend their young; about the middle of August they leave the island.”*

At St. Tudwal's, in 1887, about fifty came on 31st March, and hundreds on 29th April; they left on 12th August. Another year the first came on 14th April, and the bulk left on 14th August.†

Where the Puffins all go to is a mystery, but very few are ever seen in winter.

Ray in his *Third Itinerary* mentions finding the Puffin breeding on Priestholm and Bardsey islands in May, 1662. He adds: “They have a tradition in Wales about the Puffins that they cannot fly if they be out of sight of the sea-water. Their wings are very small and yet they fly swiftly, but seldom very high.”

Pennant, in his *Tour in Wales* (1810 Ed. III., 39-41), gives a quaint but most interesting account of the Puffins on Priestholm, with figures of the bird, and the bill in its various stages.

Although the colony on Puffin Island, owing to its accessibility and frequent mention by writers, is the best-known in North Wales, it is far surpassed in size and

* *History of Aberconwy* 1835, p. 154.

† *B.A. Migration Reports.*

importance by that on St. Tudwal's Islands. The Puffins here are so numerous that they cannot be estimated, but they probably number some hundreds of thousands. The islands are covered with sandy turf, and slope off all round to low rocky cliffs. The nesting-burrows occur all over the islands, but are principally crowded together in a belt twenty to forty yards wide stretching all round the coast just above the cliffs; here the ground is literally riddled by the holes, from or into which the birds are passing continually. Although the scene is one of great animation, it is strangely silent, for the Puffins utter no sound (except an occasional guttural growl from the burrow), and nothing is heard but the whirring of wings. The birds betray little fear of man, and will settle within two or three yards if he keep quite still. I have obtained many good photographs in this way. At St. Tudwal's not only are the islands themselves covered with birds, but the water all round is crowded, and the air is alive with them passing to and fro between their nests and feeding-grounds.

The food appears generally to consist of "whitebait," and a Puffin carries to its nest three or four of these little fishes neatly arranged in a row along one side of the bill, their tails hanging down like a moustache. One cannot help wondering how the bird manages to retain the first capture whilst catching the second, third, or fourth.

An interesting account of the St. Tudwal's colony, by Mr. O. V. Aplin, appeared in the *Zoologist*, 1901, pp. 406-8. In this he discusses at length the attitude of the Puffin in walking and standing, and states that in most instances figures and descriptions are incorrect, since they show the bird with body vertical and *tarsi* resting on the ground, whereas the Puffin undoubtedly walks and stands on its feet alone—not on its feet and *tarsi* like a Guillemot. He noticed, too, that many of the birds about the burrows were "*lying* down on their breasts like ducks."

The Puffin almost always selects a site for the burrow where the ground slopes downwards to the sea, and, when

issuing forth, it launches itself on the wing by a quick run, both feet and wings working with great rapidity.

The single large egg is generally laid towards the end of May, and is of a chalky-white colour, with underlying lilac markings. The markings vary greatly in number, and are often almost imperceptible. In a short time the eggs become stained to the colour of the sandy soil, when, of course, the markings are quite invisible.

The nestlings—round, black, downy balls, with quite small beaks, very unlike those of the parents—begin to hatch out about the last week of June; but on 13th July, 1903, I found a large proportion of eggs on St. Tudwal's still unhatched, whilst Mr. S. G. Cummings has found eggs unincubated late in June. Rev. W. J. Constable has, during the last five years, repeatedly visited St. Tudwal's during the month of August (never before the 4th), and found many still feeding young, others sitting on eggs, and others with newly-hatched young. He adds that it is quite the end of August before the last of the Puffins quit the island. It seems from this that there is considerable individual variation in the date of laying or commencing to incubate; but Mr. Aplin thinks that this irregularity is largely due to the earlier eggs being taken for food.

Mr. Cummings has noticed that many Puffins pass westwards along the north coast of Anglesey in summer, as well as in March, passing outside the Middle Mouse. He thinks there is a well-defined track here for Puffins, Razorbills, and Guillemots. Perhaps they come from Puffin Island, for they have no breeding station of any importance on the north coast of Anglesey.

ANGLESEY. Breeds on Puffin Island in the greatest abundance (Bingley, 1804, Pennant, etc.), but numbers have varied in recent years. Formerly bred on Skerries (Eyton, 1839, Pennant's *Tour*, III., 69), but not now. A good number breeding on turfy slopes at side of South Stack in 1902 (Forrest), but only about two pairs in 1898. Many in 1905 (Cummings). Eleven on the water, 26th April, 1905 (Coward).

CARNARVON. Very numerous on St. Tudwal's Islands (Bingley, etc.); a large colony on Ynys Gwyllan Fawr and Ynys Gwyllan Fach, also a few pairs on mainland opposite the islands (Aplin). A few pairs breed on Orme's Heads (Pennant, *Tour*, 1810 Ed. III., 155, Forrest and others), Bardsey Island, 1662 (Ray, *Third Itinerary*), but none breed there now (Aplin).

DENBIGH AND FLINT. Occasionally blown inland in rough weather (Dobie's list) on Dee Estuary (Brooke), occasionally in cold weather (V. Wilson) and Colwyn Bay (Russell).

MERIONETH. One caught Bala Lake, 21st July, 1876 (Ruddy). Dovey Estuary, seldom seen unless washed up (Salter); frequent in summer at Barmouth (Rawlings) and Penrhyn-deudraeth, but rarely seen in winter (Haigh). Obtained Towyn (H. Franklin).

MONTGOMERY. Specimen in Welshpool Museum taken alive near Montgomery, 19th June, 1891; weather fine and warm (*Bygones*, 1891, 122).

240.—GREAT NORTHERN DIVER. *Colymbus glacialis* Linn.

TROCHYDD MAWR = Great Diver.

Not uncommon, autumn to spring, in the west; rarer in the north, and only a straggler inland.

This splendid bird appears to visit the western coasts and estuaries almost every winter, and occasionally in some numbers. Immature examples are more often obtained than adults. Along the north coast it is comparatively scarce, yet on more than one occasion it has visited the meres of Flintshire far inland. Now and then individuals have been known to linger on our coasts as late as May or even June before proceeding to their northern breeding homes.

ANGLESEY. Holyhead, seen at times; two late in summer, 1902 (Edwards). One seen in the harbour close to L. & N.W. Rly. Hotel (Haigh). One killed 24th December, 1874, and

another 7th January, 1875 (S. F. Saunders in *Field*, 27th February, 1875). Frequent in winter round South Stack (Forrest, *vide* lighthouse keepers), and among the rocks outside Rhosneigr; one in Crigyll River, 20th June, 1902 (Long). Occasional Aberffraw; in winter 1886-7 after a long succession of south-westerly gales, ten stayed for a long time in Porth Leidiog, close to the shore, evidently tired out (Gosling). Occasional west coast and Menai Straits (Marshall); killed two in Straits (Humphreys); obtained there (Dickinson).

CARNARVON. Bangor occasionally; adults rare (Martin's *Wanderings in Wales*, 1864). Deganwy, a few immature in winter (Hutchinson). Criccieth, one seen 26th May, 1901 (Horwood); not uncommon on coast (Evan B. Jones). In 1901, Mr. Coward found remains of one in winter dress, Aber-soch (Aplin). In mid-March, 1903, saw one in Pwllheli Harbour and another under Llanbedrog Head (Haigh). Watched one on sea opposite Penmaenmawr in September, 1900 (B. Salter, Shrewsbury). One seen off south-east coast of Llleyn in late spring a few years ago (Johnes).

DENBIGH AND FLINT. One shot by Mr. Roberts, Allmere, Rossett, who has it preserved (Benden). Seen in Dee Estuary opposite Hilbre Island, 1868, and Llandrillo Weir, 1893 (Dobie's list). Has occurred on some of the meres along the border (Forrest). Shot at Hilbre Island (Byerley, *Fauna of Liverpool*).

MERIONETH. Dovey Estuary, frequent in winter (Feilden and Salter); occasional, shot one near Towyn and another was shot by Major Clifford Brown whilst fishing in a tributary of the Dovey, near Machynlleth, in 1899 (Kershaw), another by Mr. T. H. Thursfield, near Machynlleth, in October, 1904 (Geo. Potts, Broseley). One shot at Towyn by Mr. N. J. Preston (Kirkby). Several obtained (H. Franklin). Barmouth, occurs every winter (Rawlings and Roberts). Llanbedr, one seen at mouth of River Artro, 6th April, 1902 (Moore). Penrhyn-deudraeth, regular winter visitor, often scarce but sometimes very common; much in evidence in winter, 1902-3; enters the estuaries in rough weather (Haigh); two Barmouth, 20th May, 1901 (Aplin).

MONTGOMERY. Not recorded.

241.—BLACK-THROATED DIVER. *Colymbus arcticus*
Linn.

Recorded several times on the Dovey Estuary ; once in Anglesey and the Dee Estuary ; and once inland in Flintshire.

Of the three species of divers, this is by far the rarest. Eyton mentions one obtained in 1838-9, but gives no locality. Professor Salter says that on the Dovey Estuary immature birds are not infrequent, and it has once occurred in breeding plumage. This last allusion is probably to a fine old male in the collection of Mr. F. T. Feilden. Dr. W. E. E. Kershaw has an adult in winter plumage, also obtained on this estuary. Mr. J. Bushby records in the *Field*, 27th January, 1877, shooting one and hearing of another at the end of the previous month at the mouth of the Dee. A very fine adult in the Hawkstone collection (now at Peplow Hall) was shot at Gredington, Flintshire, in 1860, and recorded by John Shaw in the *Field*, 29th December, 1860. The most recent instance of its occurrence was one seen by Mr. T. A. Coward in Aberffraw Bay, Anglesey, on 21st April, 1905. "The bird was in summer dress, with slate-grey head and neck; the black throat and half-collar of white were very conspicuous. Its dives at times lasted for about thirty seconds, and it often brought up flat fish from the sandy bottom of the estuary. When one of them was brought to the surface, the bird seemed to bite it over and over again as if to break it up before swallowing it."*

242.—RED-THROATED DIVER. *Colymbus septentrionalis*
Linn.

TROCHYDD GWDDGFOCH = Red-throated Diver.

Common on the west coast from autumn to May ; less frequent on the north coast.

Of the three divers the Red-throated is the most numerous,

* *Zoologist*, 1905, 426.

and is especially common on the Merioneth coast and estuaries in the spring, whilst it occasionally visits inland waters. Most of the birds are immature, but there are often some few adults seen, and they not infrequently remain until the full breeding plumage has been assumed; this generally takes place before the beginning of May. In the *Zoologist*, 1892, p. 226, Mr. G. H. Caton Haigh describes how he watched one on the Merioneth coast *walking* on land—a power denied to birds of this genus by many authors.

ANGLESEY. Occasional Aberffraw (Gosling). One there in summer dress 21st April, 1905 (Coward, *Zoologist*, 1905, 426). Speckled Divers or Loons frequent off Anglesey and Carnarvon (Martin's *Wanderings in Wales*). Obtained on Menai Straits (Dickinson). Occurs every winter (Eyton).

CARNARVON. Not uncommon along coast in Portmadoc district (Evan B. Jones). Adult at mouth of Pwllheli Harbour several days early in February, 1903 (Aplin). Occasionally in Llandudno Bay (Moore) where it is common some winters (Hutchinson).

DENBIGH AND FLINT. Colwyn Bay, immature birds common off Rhos Weir; one obtained in autumn (Russell). Occasionally on Dee Estuary; shot one (Brooke). Occurs there chiefly in intermediate or winter plumage, but three noted with red throat (Dobie's list). Several fishing off Llanddulas, 3rd March, 1907, and about fifty between there and Old Colwyn on 31st; several in breeding plumage (Oldham). Female obtained Heswall, 18th November, 1906 (V. Wilson).

MERIONETH. Dovey Estuary, common winter visitor (Feilden, Salter) and I have seen several examples sent in from there and from Towyn for preservation, mostly immature; five diving off Aberdovey, 22nd April, 1905, two assuming summer dress (Forrest). Barmouth, occurs every winter (Rawlings and Roberts). Seen off Mochras in spring, 1902 (Moore). Penrhyn-deudraeth, very common, many remaining in spring until breeding plumage is complete—as late as 8th May; none, however, in winter 1902-3 (Haigh). Seen several times on Bala Lake (Wrigley); one shot Penmaenpool, 24th January, 1894 (*Field*, 3rd February, 1894). Barmouth, in May not at all uncommon; on 8th May, 1901, nine feeding in the shallows. Several times seen birds with the red throat well developed (Aplin).

MONTGOMERY. Not recorded.

243.—GREAT CRESTED GREBE. *Podiceps cristatus*
(Linn.).

GWYACH GORNIOG = Horned Grebe.

Not uncommon; a few pairs breed along the English border and in Anglesey, but elsewhere it is only a winter visitor to the coasts and estuaries.

In Cheshire and Shropshire the Great Crested Grebe is fairly common, and has decidedly increased as a breeding species in recent years. Several pairs nest on the larger meres in the adjoining parts of Flintshire and Montgomeryshire, and perhaps one or two in Anglesey. Elsewhere throughout the inland portions of North Wales it is almost unknown, and has never been found breeding. Along the coasts, however, it is met with from time to time in winter, occasionally in some numbers; but here it seems to keep almost entirely to salt water, seldom even entering the estuaries beyond the tideway. There seems to be a doubt whether it still breeds in Anglesey, though it certainly did so in former years. None have been found nesting there within the last five years.

ANGLESEY. Used to breed on Penrhyn Lake (Forrest and Long), three nests there in 1892, one with *five* eggs; pair on sea, Malldreath, 12th June, 1903 (Coward and Oldham).

CARNARVON. Occasional in winter on coast (many observers).

DENBIGH AND FLINT. Occasional in winter on coast and Dee Estuary. Inland it has occurred at Maesmor near Corwen (Dobie's list), and breeds on Hanmer Mere and other meres on the border (Forrest and Hodges).

MERIONETH. Occurs on Bala Lake in winter (Buckley). Penrhyn-deudraeth, scarce some winters, very common in others—as in 1902-3—frequently remains till end of April; a single bird 1st June, 1899; in rough weather it comes up the estuaries but never visits fresh water (Haigh). Never breeds (Salter and others).

MONTGOMERY. One shot on Severn at Pool Quay, 26th January, 1895 (*Bygones*, 1895, 20). A pair on Marton Pool (F. Williams). A pair on Llyncllys Pool, 1900-4, reared four young in 1903; leave before Christmas, but return in March (Forrest).

244.—RED-NECKED GREBE. *Podiceps griseigena*
(Boddaert).

Winter visitor, rare; has occurred in west Anglesey and on the Dee and Dovey Estuaries.

Brockholes wrote of this species in 1874 as "occasionally obtained on the Estuary of the Dee," and Mr. Victor Wilson says he has obtained it there. Mr. E. Gosling met with it very rarely in the thirty years he stayed at Aberffraw, Anglesey. He last saw one at Porth Leidiog in 1887. Mr. F. T. Feilden met with a pair on the Dovey Estuary in October, 1899. One of them was shot, but not retrieved; the other was seen on 9th November in company with Dabchicks and a Merganser.

245.—SLAVONIAN OR HORNED GREBE. *Podiceps*
auritus (Linn.).

Winter visitor, not infrequent on the Merioneth estuaries; rare elsewhere.

The range of the Slavonian Grebe in North Wales appears to be almost limited to the Merioneth coast, where it occurs frequently in winter. In Anglesey it has been only once recorded, but it is more than likely that it has been overlooked, and further research in the winter months would probably reveal its presence.

ANGLESEY. Obtained near Holyhead, 1884-5 (Eyre).

CARNARVON. Rare Portmadoc district (Evan B. Jones).

DENBIGH AND FLINT. Dee Estuary, one in Mr. Congreve's collection obtained at Burton in January, 1839 (Dobie's list).

MERIONETH. Dovey Estuary, occasional in winter (Hooton and Salter); three obtained at different times (Feilden). Barmouth, more common than the Great Crested Grebe; some winters many occur (Rawlings). Penrhyndeudraeth, not uncommon, though probably less numerous than *P. nigricollis* (Haigh).

MONTGOMERY. One on Severn at Welshpool in December, 1900; stayed two days (Butterfield).

246.—BLACK-NECKED OR EARED GREBE. *Podiceps nigricollis* C. L. Brehm.

Rare; met with chiefly in west Anglesey and Merioneth in spring and autumn.

At Penrhyndeudraeth Mr. Caton Haigh reports this grebe as fairly common; between February 1st and March 25th, 1890, eight were seen and six shot, whilst another was obtained 17th December, 1891.* He tells me that he has seen it in the same locality every year since, often in spring, and in full breeding dress. Mr. Howard Saunders' note in his *Manual* (2nd edition) that the species "is a regular visitor in February and March to the coast of Merionethshire" was founded upon Mr. Haigh's observations. Mr. T. A. Coward records a specimen obtained on Llyn Maeiog, 1st August, 1892.† Mr. Wm. Banks' statement‡ that the Eared Grebe is resident and breeds in Anglesey, doubtless refers to the Great Crested Grebe. Mr. E. Gosling says that "the Eared Grebe was formerly found on Llyn Maeiog, but has disappeared for many years, having been shot down."

In considering these statements it must be borne in mind that the Great Crested Grebe is sometimes mis-called the Eared Grebe, whilst the Slavonian Grebe, which is a winter visitor only, is also confused under the same title. Mr. A. O.

* *Zoologist*, 1890, 186; 1892, 311. † *Zoologist*, 1892, 358.

‡ *Zoologist*, 1892, 412.

Walker records a specimen of the Eared Grebe obtained during rough weather on a small pond at Bagillt on 27th September, 1856,* and Mr. Rocke mentions two killed on Hanmer Pool, Flintshire, in 1864. Mr. A. Newstead records† one obtained on the Dee Marshes in November, 1906, and now in Chester Museum, while Mr. V. Wilson states that he has an example in his collection which he shot in the same district.

247.—LITTLE GREBE. *Podiceps fluviatilis* (Tunstall).

GWYACH FACH = Little Grebe; TINDROED FACH (or FECHAIN) = Little Tail-Foot; HARRI GWLYCH DY BIG = "Harry, wet thy beak."

Resident and generally distributed, but somewhat local.

The Little Grebe or Dabchick is found in all the counties of North Wales. In a general sense it may be described as resident and breeding on all lowland waters; but its numbers vary locally, even in districts of similar character. It occurs, too, and breeds, on pools amongst the mountains up to an elevation of 1300 feet; but these upland birds probably descend to the lowlands for the winter months, since several observers have noted increased numbers near the coasts and estuaries in severe weather. On Bala Lake also the species is often numerous in winter. Some few of the birds seen then may be local, but the bulk probably come from llyn amongst the surrounding mountains. As a rule, the Dabchick is a very shy bird, diving silently whenever anyone approaches; but on the meres along the English border it is wonderfully tame, and will feed quite unconcernedly within eight or ten yards of an observer.

* *Zoologist*, 1856, 5321.

† *Zoologist*, 1907.

248.—STORM-PETREL. *Procellaria pelagica* Linn.

GWYLAN Y WEILGI = Ocean-Gull; CAS GAN LONGWE = Sailors' Hatred.

Met with on the coast occasionally during rough weather in winter.

The Storm-Petrel's visits to North Wales appear to be mainly accidental during rough weather in the autumn or winter months, especially October. At such times it is occasionally driven many miles inland, and is found either dead or in a helpless condition. Eyton mentions "two or three specimens both inland and on the coast." Mr. Victor Wilson has obtained this bird on the Dee Estuary, where he states that it is by no means uncommon after gales. It was particularly numerous there in January, 1899. It is probable that several of the records given below actually refer to the Fork-tailed Petrel, a species which is persistently reported in newspapers, etc., as the "Storm-Petrel."

Mr. O. V. Aplin informs me that he has reason to suspect that the Storm-Petrel breeds at the far end of Llyn, though he has not yet obtained positive proof of the fact. On 2nd June, 1906, when in a boat on Aberdaron Bay in the forenoon, he saw a Storm-Petrel, which passed near the boat, flying towards the land.

ANGLESEY. One picked up at Valley after a gale in January, 1890 (Clulow); one seen near Holyhead, 1899 (Edwards). Several picked up in mid-Anglesey about 1860 (Priestley). Occasional Aberffraw (Gosling).

CARNARVON. Aberdaron, appears at sea in changeable weather (Aplin, *Zoologist*, 1903, 209). Occasional Portmadoc district (Evan B. Jones). Llandudno, two taken alive early in October, 1901 (Hutchinson). One caught exhausted after a gale in autumn 1898 at Nevin: afterwards revived and flew away (Johnes).

DENBIGH AND FLINT. One in collection at Rûg, found in a turnip-field there in 1870 (Wynn). One came on deck of Dee lightship, 25th October, 1884; another struck the lantern, 10th November, 1885 (*B.A. Migration Reports*). Brockholes records a specimen found dead on the Dee Marsh. The late Mr. J. C. Stevens, of Chester, had two obtained on Sealand about 1900 (Forrest); 30th November, 1906, one fluttering to and fro over shallow pool left on sandy shore near Abergele; came quite close repeatedly, uttering plaintive cry; eventually flew out to sea (Lang). Frequent on Dee Estuary after gales (V. Wilson).

MERIONETH. Dovey Estuary district, frequent during westerly gales in autumn and winter (Salter). Several obtained Barmouth, driven in by severe storms (Rawlings). Penrhyn-deudraeth, not very rare; seen inside the Portmadoc embankment (Haigh). Seen once at Towyn in stormy weather (H. Franklin).

MONTGOMERY. In the list of donations to Shrewsbury Museum is an entry of "A Stormy Petrel taken alive at Glansevern, 18th October, 1843."

249.—LEACH'S FORK-TAILED PETREL. *Oceanodroma leucorhoa* (Vieillot).

Occasional winter visitor to both west and north coasts.

This larger species is probably almost as numerous in North Wales as the Storm-Petrel; it has several times been erroneously reported in newspapers under that more familiar title.

In October, 1899, quite a number of Fork-tailed Petrels visited the Dee Estuary; some eight or nine were shot, one of which I examined in the flesh. Two were seen by Mr. F. T. Feilden on the Dovey bar, whilst on 11th November, one was obtained at Dolgelley by Mr. C. E. J. Owen.* In 1900, Dr. W. B. Russell records one picked up on the pier at Colwyn Bay at 10 p.m. on 27th September; it was apparently dazzled by the electric light. Its strong musky odour was

* *Field*, 18th November, 1899.

very perceptible ; when put into a cage it shunned the sunlight, creeping into the darkest corner. Two days later, the weather being very dull, whilst he was showing it to some friends, it climbed boldly on to his hand and flew with a strong flight like a Swallow out to sea. On 8th December, 1901, three came to the Pant, near Llanymynech ; one of them was caught and killed by a dog and I saw it next day at the taxidermist's. The late Mr. J. C. Stivens, of Chester, had two, obtained near Flint in 1902, and Mr. V. Wilson shot one on the Dee Estuary, 12th November, 1901. Mr. Ruddy reports an example found in the snow on Arennig, 23rd November, 1904. Dr. Dobie records in his list one obtained at Talacre, and a specimen in the Chester Museum shot on the Dee near Queensferry, 10th January, 1887. Professor Salter says it occurs sometimes in the neighbourhood of the Dovey Estuary during rough weather, whilst Mr. G. H. Caton Haigh thinks that some of the Petrels seen at times inside the Portmadoc embankment are of this species : " On the 7th November, 1896, the remains of one of these birds were found on some rough ground near Aberia ; it had been dead some time, as the flesh had been eaten off by the Jackdaws." The latest record is an example picked up dead at Carnarvon, 24th November, 1905, and subsequently shown to me.

250.—MANX SHEARWATER. *Puffinus anglorum*
(Temminck).

GWYLAN MANAW = Manx Gull ; PWFFIN MANAW = Manx Puffin ; " Mackerel-cock " (Lleyn).

Breeds in Lleyn and on adjoining islands ; frequent on west coast and off Anglesey.

The late A. G. More marked the Manx Shearwater as not known to breed in North Wales, and it is only recently that the discovery has been made that the species nests in some numbers at the extremity of Lleyn with its adjacent islands.

In the *Zoologist*, 1895, p. 72, Mr. T. A. Coward gives a detailed account of the finding of numbers of dead Shearwaters along the cliffs opposite St. Tudwal's Islands in May, 1893. In some instances the birds had apparently been dug out by the natives, and in one case a dead bird and a broken egg were seen at the mouth of the hole, whilst several other indications of the Shearwaters breeding there were seen. In June, 1887, Messrs. Coward and Oldham "saw a string of these birds flying across the bay towards two small islands, and the following year made several enquiries about the birds from the lighthouse keepers on the islands and from the natives. They all spoke of "mackerel-cocks" being occasionally seen in the bay, but affirmed that they did not breed. The keepers, however, said that they heard them at night making a noise "like a child sobbing in trouble." Another keeper described the noise as sounding "like a deep-drawn out repetition of the words 'it's your fault,' the emphasis on the word 'your.'"

Mr. O. V. Aplin describes* a considerable colony on the side of the mountain at the north-east end of Bardsey Island, and how when staying there at the end of May, 1901, he could hear them in numbers at midnight flying low over the fields and calling "cock-cock-go-grow," or "cock-go-grow." They breed there "chiefly in a steep grassy cliff varied by patches of fern and large rocks which project from the turf. Some of the Shearwaters breed in holes under these rocks where they emerge from the turf; others in long clefts in, and winding passages among, the rocks. Most of the birds and eggs are quite inaccessible, but certain marks at the entrance denoted an occupied hole. Some of the birds were indignantly noisy when a stick was gently pushed into the easier holes. . . . The birds are very savage and bite everything within reach, and they inflict a painful bite." Several eggs within sight were on the bare earth.

The Manx Shearwater is mainly nocturnal, but will sometimes fly abroad in the daytime when the weather is foggy.

* *Zoologist*, 1902, 16.

It is at such times, rather than during gales, that it is occasionally met with far inland, and it then seems peculiarly helpless, and quite unable to fly even if it reaches fresh water. Mr. O. V. Aplin adds that in summer the Manx Shearwater often remains on the wing well into the forenoon. When the Mackerel are in, these birds are much in evidence. He has seen hundreds in July a little way off shore at Aberdaron up to 8 a.m. He has also seen them off Barmouth in May.

ANGLESEY. Occasional Aberffraw (Gosling). Many seen at sea off north coast end of June, 1905 (Cummings and Oldham). On 31st May, 1903, a very foggy day, a large flock accompanied steamer from Dublin to Holyhead (Moore).

CARNARVON. Breeds Abersoch. Eggs taken May, 1901 (Coward and Oldham), also on Bardsey and other islands off Llleyn (Aplin). Remains of several on beach at Nevin May 31st, 1903 (Forrest). Specimen from Llandudno in collection of Mr. Stivens, Chester (Dobie's list). Eggs taken from Bardsey in own collection (Rawlings). Frequent Portmadoc (Evan B. Jones) and Abersoch (Constable and Savage). Occasional Bangor (Lort). Breeds Bardsey (Johnes).

DENBIGH AND FLINT. Not recorded.

MERIONETH. Dovey Estuary, large flocks at times (Feilden). Occurs Dolgelley (Beale). Barmouth (Rawlings). Penrhyn-deudraeth, common at sea, and dead birds are often washed ashore. On 1st April, 1900, about fifty came up the Traeth Bach as far as Aberia, and about a dozen next day (Haigh). Obtained Towyn (H. Franklin).

MONTGOMERY. Not recorded.

251.—FULMAR. *Fulmarus glacialis* (Linn.).

Rare occasional visitor, chiefly to the coast of Merioneth.

Professor Salter states that Hutchings, the Aberystwyth taxidermist, has preserved five or six Fulmars, some of which may have been obtained in North Wales. At Barmouth Mr. Rawlings reports that the Fulmar occurs but rarely.

Mr. G. H. Caton Haigh found a dead one in the sea near Harlech Point on 8th February, 1890. On the north coast the only occurrence recorded is an immature bird shot by Mr. R. H. Venables Kyrke near Rhyl, about 1860.

[CAPE PIGEON. *Daption capensis* (Linn.).

Obtained once on the Dovey Estuary.

In the *Zoologist*, 1895, Professor Salter records an example of this southern species in the collection of Sir Pryse Pryse at Gogerddan. It was shot by one of his sons in 1879 on the Dovey Estuary.]

THE REPTILES OF NORTH WALES.

The Reptilian Fauna of North Wales resembles that of the neighbouring English counties, and, consequently, calls for little remark. Only four species—two snakes and two lizards—have been identified with certainty, all of these being common. A fifth species—the Sand-Lizard—has been recorded, but no recent example has been found. Still, as it occurs among the sandhills on the South Lancashire coast, there is nothing improbable in its being found in similar places on the north coast of Wales. The nomenclature adopted is that used in the British Museum.

1.—COMMON LIZARD. *Lacerta vivipara* Jacq.

GENAU GOEG = False mouth ; MADFALL ; MADGALL ;
GWEDRESI = Lizard.

Common, and generally distributed in all suitable country.

This pretty and active little creature is found throughout the counties of North Wales in suitable localities. It is especially common on rough hillsides, where it finds safe and easy retreat in the innumerable crevices amongst the rocks and heather. The loose stone walls which are so characteristic of the mountain district are also excellently suited to its habits. The Lizard loves to lie on the stones basking in the hot summer sunshine, whilst at the least alarm it dives down between them. It seems to be little influenced by elevation, being almost equally common in lowland wastes and on the highest mountains, though it does not often go higher than about 2000 feet. It is perhaps most numerous between 500 and 1500 feet. The Lizard is an expert in the art of concealment ; I have seen one vanish into a small tuft of grass so completely that it was with the utmost difficulty I could detect it, although I knew it was there all the time. This species is ovo-viviparous, the young at birth being enveloped in a membranous capsule (similar in shape to the egg of the Sand-Lizard), which is ruptured soon afterwards. In confinement these are sometimes deposited prematurely, and are really abortive owing to artificial conditions. Ignorance of this fact, of which I was informed by Mr. G. A. Boulenger, has several times led to the Common Lizard being mistaken for the egg-laying Sand-Lizard.

[SAND-LIZARD. *Lacerta agilis* Linn.

In Williams' *Complete Guide to Llandudno* is a note by the late Mr. C. S. Gregson (who had previously found the Sand-

Lizard at Wallasey, Cheshire) to the effect that "this Lizard is plentiful on the sandhills between Llandudno and Conway." Byerley, in his *Fauna of Liverpool*, also says it occurs "on the sandhills from West Kirby to New Brighton." The first-named place being on the Dee Estuary, comes within the scope of this work, but as the record lacks confirmation the species is here included in brackets.]

2.—BLIND-WORM OR SLOW-WORM. *Anguis fragilis*
Linn.

PWL DALL = Pool Blind; NEIDR DDEFAID or DDAFAD = Sheep-Adder; DALLNEIDR = Blind-Adder.

Common and generally distributed.

This limbless species of Lizard is also found throughout North Wales, and its distribution is practically identical with that of the Common Lizard, except that it prefers somewhat lower elevations and requires more cover. As it feeds almost entirely on slugs it frequents moist places where they are to be found. The average size is twelve to fifteen inches; but on 11th September, 1904, Mr. Ruddy saw, and measured, one eighteen inches long at Llandderfel. He had seen another the same size some years earlier. At Llandbedr Mr. A. Moore found numbers of Blind-worms in clusters when digging in the ground in the spring of 1902. These were hibernating, and no doubt clustered together for warmth, or rather to prevent being frozen.

3.—RING-SNAKE. *Tropidonotus natrix* Linn.

NEIDR FRAITH = Spotted Adder; NEIDR Y TOMENYDD = Dunhill-Adder; NEIDR DORCHOG = Ringed Adder.

Common in all counties except Anglesey, where it occurs but rarely and only in the south.

The Ring-Snake or Grass-Snake is the largest of our British reptiles, averaging thirty-six inches in length, but sometimes reaching as much as sixty inches. It is common throughout North Wales, except Anglesey, where it appears to be confined to the south. It is partial to the vicinity of water; hence it is generally numerous in the larger river valleys and in shady woodlands. It is not confined to lowlands, however, for I have found it at elevations of about 1200 feet on Moel Siabod, and near Trawsfynydd. It is especially numerous and attains great size in the Conway Valley, and at Nanhoron, in Llyn. In the first-named district some years ago immense numbers were found breeding in a large manure heap. When found thus, the snakes are often coiled together in bundles, and there is a superstition current in Wales that in the midst of the bundle a small stone is generated which is endowed with wonderful magic properties. The Ring-Snake feeds largely upon frogs, though it also eats newts, small fishes, etc., but it is said never to eat mammals. Unlike the Adder, it evidently prefers cold-blooded prey. At Nanhoron, Mr. C. Lloyd Edwards says Ring-Snakes "are quite common now, but were not so a few years previously; they are in the gardens there as well as in the woods and fields. They can climb admirably, going up walls where there are creepers, or up wall-trees and over the walls."

ANGLESEY. A few only about Aberffraw (Gosling) and Llandegfan (Rowland).

CARNARVON. Wonderfully abundant on road between Tremadoc

and Aberglaslyn (Aplin) and Beddgelert (Evan B. Jones). Nanhoron, very common up to a length of three feet; longest seen three feet four inches, but reported up to five feet at Aberdunant (Lloyd Edwards). Common in Conway Valley; three to four feet length frequent, one five feet killed Talycafn, 1903 (Hutchinson). Common Bangor (Lort), Bettws-y-coed (Hague), Capel Curig; one on Moel Siabod, 1200 feet elevation, May, 1904 (Forrest), but not met with at Llanberis (Brinckman). Occasionally Ilandudno (Williams' *Guide*, p. 242).

DENBIGH AND FLINT. Generally distributed and fairly common (all observers), except about Mold where it is almost unknown (Cooke). Plentiful Llanrwst up to three feet six inches (Halhed and Popham). Few Llangollen (Pownall and Ruddy) and Rossett (Benden).

MERIONETH. Common and generally distributed; numerous in the west (all observers).

MONTGOMERY. Common throughout the county (all observers).

4.—ADDER OR VIPER. *Vipera berus* Linn.

NEIDR = Adder; GWIBER = Viper; NEIDR DDU = Black Adder.

Locally common in all counties.

This, the only venomous reptile found in Britain, is very generally distributed throughout North Wales, but is somewhat local, being often very numerous in particular localities, whilst a few miles away it is almost unknown. The places it generally affects are moors and hillsides in elevated country, and peat-bogs in the lowlands; both are selected for their warmth in summer, the Adder dearly loving to bask in the sunshine. The Adder is not nearly so water-loving as the Ring-Snake, and it favours the bogs, not for their moisture, but for the heat-absorbing qualities of their black soil. The Adder is particularly numerous in Anglesey, and David Owen of Ty Croes, who works on the railway line, frequently kills two or three in a day. I have seen him destroy them in rather a novel way by pinching the sides of the jaws till the

mouth gapes, and then thrusting a plug of nicotine from the bowl of his pipe down the animal's throat: it kills it in a few seconds. He captures them with his hand in his cloth cap, pouncing on them whilst they are basking in the sun, and he never gets bitten. A few years ago a keeper at Maelog was bitten on the hand by one as he was getting over a wall. He seized the Adder and dragged it out of its hole, whereupon it bit him again. The effects were terrible. He was ill for many weeks, and nearly lost the use of his arm. At Llanberis Mr. W. H. Brinckman reports that in 1901 some young ducks died from Adder bites, and Mr. Congreve saw a retriever made very ill by being bitten on the moors near Denbigh. I do not know, however, of any fatal result to a human being in North Wales. Large Adders are always females. Dr. W. B. Russell records two about twenty-four inches long, taken near Colwyn Bay in 1904; but at Nanhoron, near Pwllheli, where Adders are very numerous, they grow even larger. The Adder feeds largely upon small mammals and lizards. Mr. C. Oldham found in the stomach of one killed on Garn mountain (itself only twelve inches long) a Field-Vole measuring just four inches from nose to tip of tail. Examples of the Black and Red varieties have been seen at Nanhoron.

ANGLESEY. Common (all observers) Very numerous Ty Croes and Valley (Forrest).

CARNARVON. Common (all observers). Very numerous Nanhoron; black and red ones have been seen (Lloyd Edwards).

DENBIGH AND FLINT. Common on the moors (many observers). Locally common Rossett (Benden) and St. Asaph, notably Bryn Dansi gorse, Coed Coch (Wrigley). Not very common Ruthin (Steer and Radcliffe), Llangollen (Owen), or Colwyn Bay (Newstead); two large ones, two feet long, in 1904 (Russell).

MERIONETH. Common in many places on the west (many observers). None about Bala or Dinas Mawddwy (Buckley) or Llandderfel (Ruddy); four killed in one spot at Aberdovey in spring, 1907; a female sent to me by Mr. W. H. Paull in May measured exactly twenty-four inches (Forrest).

MONTGOMERY. Common in many places (many observers).

THE AMPHIBIANS OF NORTH WALES.

This is another small group of animals about which little need be said. The species found in North Wales are the same as those of the neighbouring English counties, and are six in number, including the Natterjack Toad and Palmated Newt. The nomenclature is that used in the British Museum.

1.—COMMON FROG. *Rana temporaria* Linn.

LLYFFANT = Frog; LLYFFANT MELYN = Yellow Frog;
BROGA OR FFROGA = Frog.*

Common everywhere.

This familiar species calls for no remark, except that it occurs in damp situations to a considerable elevation on the moors and mountains.

2.—COMMON TOAD. *Bufo vulgaris* Linn.

LLYFFANT DU = Black Frog; LLYFFANT DAFADENNOG = Warty Frog.

Common everywhere.

The Toad is heavy and slow in its movements, and is not credited with any power of climbing, but on 24th September, 1902, Mr. T. Ruddy found one on the top of a post in a wire fence at Hirnant, Bala. How it got up there, unless by climbing, is a mystery.

3.—NATTERJACK. *Bufo calamita* Linn.

LLYFFANT GWINEUDDU = Dark-bay Frog; LLYFFANT GWYLLT = Wild Frog.

Common between Prestatyn and the River Conway; not known to occur elsewhere.

The Natterjack seems to be confined in North Wales to a

* In North Wales both the Frog and Toad are named "Llyffant"; and when a distinction is necessary the former is called "Llyffant Melyn"; but in South Wales the Toad alone is known as "Llyffant"—the Frog is always "Broga" or "Ffroga."

well-marked area stretching along the northern borders of Flint and Denbigh from Prestatyn to Llanrwst. It is mentioned in *Faunula Grustensis* as occurring at the latter place in 1830, whilst in modern times Mr. W. B. Halhed has found it breeding there in a pond. It has also been noted in two ponds between Rhyl and Abergel, whilst Dr. W. B. Russell found it breeding plentifully in a pond near the sea on the sandy fields to the east of Foryd. All these are in Denbighshire. A little further to the east in Flintshire, at Prestatyn, one of my boys found a fine one in the sandhills on 9th September, 1904; this I kept alive for two days and then released. I also found there the dried remains of another that had been run over and killed. In the detached part of Carnarvonshire formed by the Llandudno district, the late Mr. C. S. Gregson states that "this Toad is not uncommon in the ditches and pits around the sandhills, and also on the sandhills away from water." *

4.—COMMON NEWT. *Molge vulgaris* (Linn.).

MADFALL = Newt (or Lizard).

Not authenticated in Anglesey or Carnarvon. Common elsewhere.

Owing to the fact that the Palmated and Common Newt closely resemble one another, whilst few people are competent to distinguish one species from the other, the data regarding their distribution are unreliable, and the majority of records have had to be rejected unless confirmed by specimens. Subsequent discoveries may very greatly modify the conclusions now arrived at, but so far as is known at present, the Common Smooth Newt does not occur in either Anglesey or Carnarvon, its place in those counties being taken by the Palmated Newt. In the three eastern counties it is very common, especially in Montgomery; probably also in Merioneth, though I have no actual specimen from there. It may be

* Williams' *Llandudno Guide*, last ed., p. 242.

well to mention one infallible character (independent of age, season, or sex) by which the Common Smooth Newt and Palmated Smooth Newt may be distinguished : the chin in the former is yellow or whitish, usually with blackish spots ; in the latter it is flesh-coloured and devoid of spots.

5.—PALMATED OR WEBBED NEWT. *Molge palmata*
Schneid.

Common in Anglesey and Carnarvon, and along the north of Denbigh and Flint.

This species derives its name from the conspicuously webbed hind feet of the male, which are most evident during the breeding season. The tail, too, at this time carries a terminal filament. By the end of summer these characters disappear. The smaller size and the flesh-coloured chin will, however, at any season, serve to distinguish both sexes of this from the Common Newt. Newts take much longer to develop than frogs, and the *larvæ* show the front legs first (frogs and toads show hind legs first). Not infrequently the *larvæ* of the previous year, still retaining their external gills, may be found in ponds. During the first week in June, 1902, Mr. C. Oldham found adults and *larvæ* of the previous year in a small pool on the cliffs near Penmon, Anglesey, and I have known the same thing happen at Colwyn Bay. Probably the Palmated Newt does not attain complete maturity till its third year. As regards its distribution in North Wales, there is evidence of its being the commonest species of newt in Anglesey and Carnarvon, whilst it is also found along the north coast as far east as Prestatyn, and inland in Denbighshire, but it has not been authenticated in Montgomery or Merioneth. Further evidence regarding these districts is much to be desired.

ANGLESEY. Found at Penmon, Llangoed, Bodorgan, Llangwyfan, Ty Croes, Valley, Moelfre, and on Holyhead Mountain (Oldham).

CARNARVON. Found at Llanberis, and very abundant in ponds on the Little Orme's Head (Forrest). Found at Abersoch (*Zoologist*, 1888, 394) and Capel Curig, one in road crushed by cart-wheel, 8th October, 1905 (Oldham). Found at Braich-y-pwll and on Bardsey (Coward, *Zoologist*).

DENBIGH AND FLINT. Fairly common Colwyn Bay (Russell). One found at Trefnant and Nantglyn (Oldham, *Zoologist*, 1896, 147), also at Llanelian at over 900 feet elevation, May, 1907.

MERIONETH. }
MONTGOMERY. } Not known to occur.

6.—GREAT WARTY NEWT. *Molge cristata* Laurenti.

*GENAU GOEG DDAFADENNOG = Warty Lizard.

Probably occurs in all counties, and is numerous in places.

This large dark-coloured species is apparently the most generally distributed of the three newts, and is numerous in the eastern counties. It probably occurs in all the six counties, but has not actually been authenticated in Merioneth.

ANGLESEY. In pond near Moelfre, May, 1903 (Oldham).

CARNARVON. Numerous in ponds on the Little Orme's Head (Forrest). In ditches near Llandudno (Williams' *Guide*, p. 242).

DENBIGH AND FLINT. Common Colwyn Bay (Russell) and many localities in these counties (Newstead). Found at Trefnant (Oldham) and Mold (Cooke). Very numerous but local, St. Asaph (Wrigley).

MERIONETH. Not authenticated.

MONTGOMERY. Common Welshpool (Forrest and Harrison), Llanllugan (Lort), and Newtown (Jones).

* *Cf.* Lizard, *ante*.

THE FISHES OF NORTH WALES.

The total number of species enumerated in the following pages is one hundred and fifty-nine—twenty-seven fresh-water* and one hundred and thirty-two marine, though of these last, nine are doubtful. This total is remarkable since, whilst the avifauna of the eastern counties of England is far richer than the Welsh, the number of species of fish is greater, by at least ten, in Welsh waters. It is a matter for regret that the Welsh never develop their fisheries adequately, so that even the watering-places have to procure their supplies of fish from Grimsby.† As regards the fresh-water species, it is remarkable that with the exception of the Minnow and *Salmonidæ* they are confined almost entirely to the eastern side of the mountain barrier. Trout are found in nearly all the streams and tarns, Char in several of the lakes, whilst Bala Lake is one of the few habitats for the Gwyniad. As regards variety of species the sea around Anglesey appears to be far more productive than any other local waters, partly on account of its numerous sandy and rocky inlets, and partly because it lies in the way of migrant shoals passing up or down the Irish Sea. One of the forms of the Sea-Trout—the Sewen—is peculiar to the rivers of Wales, hence its scientific name, *Salmo cambricus*. A point of considerable interest is the absence or comparative rarity of certain species which are common on the east or south coasts of England, *e.g.*, the Haddock and Halibut (both rare), and the Boar-fish (which is unknown). The classification and nomenclature adopted in the following pages are the same as those now in use at the British Museum, and have been revised by Mr. G. A. Boulenger. To him, as well as to Mr. G. E. Bullen, Professor P. J. White, and the late Mr. E. Gosling, I am indebted for valued assistance in dealing with this section of the Fauna.

* Excluding varieties of the Trout.

† The economic aspect of the question is fully dealt with in the writings of Professors Herdman and White, and Mr. A. O. Walker. See Bibliography under these names.

1.—PERCH. *Perca fluviatilis* Linn.

DRAENOG = Thorny; PERC = Perch; PILKS (Local name, Newtown).

Common; but in Anglesey and Carnarvon only introduced recently.

Eyton stated that the Perch was not indigenous to Wales; yet, years before, Pennant had described and figured a curious hump-backed variety from Llyn Rathllyn, Merioneth, whilst the fish has long been known as an inhabitant of Montgomeryshire and of Bala Lake, where it is now very numerous. Donovan records one caught there which weighed five pounds, and Pennant one of ten pounds.* The Perch was recorded at Llanrwst in 1830 by John Williams, and is found in most lowland pools on the borders of England and Wales. In the west and in Anglesey the Perch is not indigenous, though it has been introduced into many pools, and has flourished. In the Anglesey lakes Perch do extremely well, especially in Llyn Maelog, where they have been taken up to three-and-a-half pounds weight, though their presence has proved detrimental to the Trout in the same waters, as they eat all the fry. Giraldus informs us that in his day Llyn-y-cwn, on Glyder Fawr, was noted for containing three kinds of fish—Trout, Perch, and Eels—all of them monocular, wanting the left eye. Pennant quaintly comments on this: "At present there is not a fish in it to disprove the relation."

ANGLESEY. Abundant in Maelog Lake, but none there till introduced (R. D. Williams). Introduced in 1889, and have done well (R. J. Edwards). Common now in Dinam Lakes, Valley, Gwalchmai Lake, Crigyll River, and Llyn Maelog, where they have been taken up to three-and-a-half pounds (Gosling). Plentiful in Crigyll River (Humphreys).

* *Tour in Wales*, 1810 Ed. II., 213.

CARNARVON. Vaynol, introduced about 1882 (Lort).

DENBIGH AND FLINT. Llanrwst, 1830 (*Faunula Grustensis*). Occurs Downing (Fielding); Mold, in ponds (Cooke). In Llyn Helyg, introduced from Bodidris about 1836 (Wrigley and Smith). Caught in one small pool at St. Asaph; transferred to another, where they flourished until it gradually dried up (Watts). Scarce Ruthin (Steer). St. Asaph, local (Rogers). In ponds Colwyn Bay, local (Russell). Common Llangollen (Owen and Ruddy), Llansilin (Lees), Rossett (Benden), and Wrexham (Fitz Hugh).

MERIONETH. Llyn Arennig swarms with Perch, and many anglers go there simply for Perch-fishing (Hutchinson); grows to over one pound there (Gallichan). In Rûg Lake (Wynn). In certain ponds Llanfachreth (Pugh). Very common Bala Lake; less common in Dee (Ruddy and Wrigley). In Bala Lake, etc. (Bailey). Small ones Dinas Mawddwy (Steadman). Llyn Gwernan, near Dolgelley (W. E. Edwards). Found locally in the Dee, but not plentifully above Llangollen; in a private pond near Arthog (Gallichan).

MONTGOMERY. Common Welshpool (Naylor), Montgomery (Brown). Introduced Llanllugan (Lort). In Llyn Coch-hwyad, Mallwyd (Buckley). In one lake near Llanerfyl (Harington). Scarce Pool Quay (Hayward). In the Camlad and pools about Garthmyl (Johnes), Vyrnwy and Tanat (Pennant, *Tour*, 1810 Ed. III., 221).

2.—RUFF. *Acerina cernua* (Linn.).

GARWBERAU = Rough Spears; DRAENOG BYCHAN = Little Perch.

Occurs only in the Severn and tributaries and Lower Dee, in canals and perhaps one pool.

Eyton stated that he had seen none in Wales; but the Ruff occurs in quiet reaches of the Severn as high as Newtown, and in the various canals, also in the lower part of the River Dee. John Williams recorded it in a pool above Bettws-y-coed; but the spot is such an unlikely one that I cannot help thinking there was some mistake, especially as the species does not occur anywhere within many miles of Bettws. The Ruff

is a fish of sluggish habits, and prefers quiet parts of a stream where the bottom is muddy.

ANGLESEY. Not recorded.

CARNARVON. Not recorded.

DENBIGH AND FLINT. In River Dee (Byerley, *Fauna of Liverpool*, and Cooke). In canal Llangollen (Walker). In a pool at Voelas Hall, near Bettws-y-coed (*Faunula Grustensis*, 1830).

MERIONETH. Not recorded.

MONTGOMERY. In Severn (Forrest). Caught in Severn at Newtown, where it is commonly called "Bo-Pig" (Williams). Llanymynech (Lees), Llansantffraid (Kempster), Guilsfield (Mytton). Very plentiful in lower part of the Camlad (Johnes). In Vyrnwy (Pennant, *Tour*, 1810 Ed. III., 221).

3.—BASS OR SEA-PERCH. *Morone labrax* (Linn.)

DRAENOG = Thorny; DRAENOG Y MÔR = Sea-Perch.

Common on many parts of the coast.

This fish is often very abundant, especially round Anglesey and the western estuaries, between April and October. At Aberdovey it is usually angled for with rod and line, and the small fish thus caught are very good eating. Dr. S. Jackson reports Bass taken at Aberdovey up to ten pounds weight, and even a little over (ten-and-a-quarter pounds being the maximum), but these large fish are coarse and in little esteem for the table. They seem to haunt the main channel of the Dovey, and to come in and out with each tide. Byerley records Bass from the Dee and round the neighbouring coast. Dr. J. H. Lister reports it as common at Barmouth, where Mr. A. F. Martineau has known specimens taken in 1893 weighing seven-and-a-half and eight pounds. He has heard, too, that it is sometimes common off west Carnarvonshire where small brooks enter the sea. Mr. W. M. Gallichan reports good Bass fishing at Towyn, and I

have been told that many Bass are taken with rod and line at Llandudno. Mr. Willoughby Gardner has taken them at the mouth of the Dwyfor, near Criccieth. Some years they run up the estuary of the Conway in numbers.

4.—COMBER, GAPER, OR SMOOTH SERRANUS.
Serranus cabrilla (Linn.)

Occurs on the west coast, rarely.

Eyton records having taken this species several times near Holyhead, and Mr. Gosling took it occasionally off Aberffraw. Day does not seem to have noticed Eyton's record, for in speaking of the distribution of the species he says "it does not appear to extend so . . . high as the Bristol Channel on the west." Dr. J. H. Lister believes it occurs at Barmouth.

5.—RED BAND-FISH. *Cepola rubescens* Linn.

Seen once off west Anglesey.

Mr. E. Gosling writes: "I saw one in the autumn of 1882 off Carreg Draï, Anglesey. It was about a foot under water, and seemed driving along with the tide. I tried to gaff it, but missed it two or three times, when it sank with a serpentine motion." Mr. G. E. Bullen remarks on this species: "I doubt whether there is sufficient depth of water anywhere on the trawling grounds of the Irish Sea to form a suitable habitat for the Band-Fish. Occasionally specimens are taken in the English Channel from a depth of twenty fathoms or more, but most of the specimens I have examined were brought in by steam trawlers working in the Bay of Biscay at a depth of not less than eighty fathoms. Although the species cannot be classed as a deep-water fish, it is hardly one to be met with in any numbers at moderate depths."

6.—DENTEX. *Dentex vulgaris* (Cuv. and Val.).

Recorded only near Pwllheli.

Dr. J. Travis Jenkins took four specimens in the trawl in four-fathom water off the Gimlet Rock, Pwllheli, on 27th September, 1905. The only record in the district.

7.—SEA-BREAM. *Pagellus centrodontus* (Delaroche).

GWRACHEN = Hag.*

Common.

Pennant described this fish under the title "Lunulated Gilt-head." Eyton recorded it as common near Holyhead, and Professor White has met with it occasionally in the Menai Straits, whilst at Aberffraw Mr. E. Gosling found it very plentiful, and Mr. H. Thomas records it as frequent at Llandudno. Dr. J. H. Lister says a few are caught off Barmouth; Mr. Martineau has taken it off the Bird-Rock at Nevin, and Mr. H. G. Attlee has seen it at Llanbedr. Mr. G. E. Bullen remarks that there is a great difference in appearance between the immature and the adult fish; the young up to about ten inches being silvery, whereas the older fish have the metallic lustre overspread with a reddish hue, whilst the black eye-spot behind the pectoral fin is then more distinct.

8.—BLACK SEA-BREAM. *Cantharus lineatus* (Montagu).

GWRACHEN DDU = Black Sea-Bream.

Not common.

Mr. E. Gosling took it occasionally at Aberffraw, Anglesey,

* See note under Ballan Wrasse. The term "Gwrachen" is applied by the Welsh to all the species of Sea-Bream and Wrasse.

but considered it rare. Messrs. Herdman and Dawson, however, describe it as "fairly common along the west coast," though other observers do not confirm this. The fish frequents rocky bottoms covered with sea-weeds, on which it feeds.

9.—RED MULLET. *Mullus barbatus* Linn.

HYRDDYN COCH = Red Poker; MINGRWN = Round-Mouthed.

Only occasionally met with.

At Holyhead Eyton mentions having once met with an immense shoal of Red Mullet. Mr. Gosling himself never met with the fish at Aberffraw, though he heard of its occurrence at Holyhead; the trawlers told him it was rare. In the Menai Straits Professor White has only met with it once—two young specimens taken in August, 1897. Mr. Brookes reports it as taken occasionally well out at sea off Llandudno. It is sometimes netted off the Carnarvonshire coast, but is not common, whilst Mr. H. F. Harries tells me he has caught it off Merioneth, and Dr. Jackson has heard of it at Aberdovey. Dr. Lister, however, has only once known it taken near Barmouth. The variety known as *surmuletus* is perhaps more commonly met with than typical specimens; it is distinguished by lateral stripes of a golden hue running the whole length of the body. Generally speaking the variety is larger than typical fish.

10.—COMMON OR BALLAN WRASSE. *Labrus maculatus* Bloch.

GWRACH* = Hag (= "Old wife," the common name for the fish in some parts of England).

Common on rocky coasts, especially Anglesey.

It is curious that none of the Wrasse are mentioned by Eyton, since they love rocky coasts such as the neighbourhood of Holyhead where he often fished, whilst a little further south, off Aberffraw, Mr. Gosling found the Ballan Wrasse very numerous. In the Menai Straits, too, Professor White reports it as common, and Mr. L. F. Lort has sent me specimens from thence. Donovan and Pennant record it from the Skerries, and Mr. J. Rowland tells me he has taken it at Beaumaris, whilst at Colwyn Bay it has been reported by Dr. Russell and Mr. A. O. Walker; at Llandudno by Mr. H. Thomas; at Barmouth by Dr. J. H. Lister; at Nevin by Mr. A. F. Martineau; and as taken in lobster pots off Abersoch by Mr. O. V. Aplin. This species may be distinguished from the next by its straight forehead, and by the lateral line being bent abruptly near the tail. It varies in colour, perhaps, more than any other British fish; examples from one locality may be of a bright grass-green, whilst those from another are of a deep chocolate hue, but the Ballan Wrasse is invariably marked profusely with more or less distinct white spots, hence the specific term *maculatus*.

* Willoughby in his *Historia Piscium* (pub. 1686), p. 320, records that the Welsh name for this fish is "Gwrach," that is to say, "Little old woman," adding that the French call it similarly "Vielle."

11.—GREEN OR STRIPED WRASSE. *Labrus mixtus* (Linn.).

GWRACHEN WERDD = Green Wrasse.

Common on rocky coasts, especially Anglesey.

The earliest recorded British specimen was taken off the Skerries. Professor White reports it as common in the Menai Straits, and off Aberffraw Mr. Gosling found it very numerous. The female is the Red Wrasse of many authors, and the Bimaculated and Trimaculated Wrasse of Pennant, whilst the male is sometimes entitled Cuckoo-Wrasse. The lateral line in this species is parallel with the back and lacks the bend seen in that of the Ballan Wrasse.

12.—ROCK-COOK. *Centrolabrus exoletus* (Linn.).

COGWRACH = Dwarf Wrasse; BOLFELYN = Yellow-belly.

Occurs on the Anglesey coast.

Mr. Gosling says this also is common off the west coast of Anglesey, but it has not been recorded by any other observer. It may be distinguished by the blue stripes on the face, below the eye, and by its small mouth. It is a small species, seldom exceeding five inches in length.

13.—JAGO'S GOLD-SINNY, ROCK-WRASSE, OR PINK BRAME. *Centrolabrus rupestris* (Linn.).

Rare.

Taken by Eyton near Aberystwyth, whilst Mr. Gosling occasionally met with it near Aberffraw, but did not see many. Byerley mentions one caught off Hoylake in 1856. This fish is usually of a red colour and has a dark spot at the upper base of tail. It frequents deep water down to a depth of twenty fathoms.

14.—CONNOR, CORKWING, GOLD-SINNY, OR
GILT-HEAD. *Centrolabrus melops* Linn.

PENEURYN = Golden-head ; BANWES = Gilthead.

Common on the Anglesey and Carnarvon coasts.

Mr. Gosling found this fish very common at Aberffraw, whilst Mr. Scott reports the same in regard to the Menai Straits, whence Mr. L. F. Lort sent me specimens in August, 1903. Dr. J. Travis Jenkins has taken it off Llanbedrog in three-fathom water. Byrley had a specimen taken off Hoylake in 1850. The young are green and, living amongst the seaweed, must be very inconspicuous. The species is distinguished by the serrated preoperculum and central dark spot at base of tail.

15.—BERGYLT. *Sebastes norvegicus* Cuv. and Val.

Only once recorded.

Byrley, in his *Fauna of Liverpool*, states that he had one given to him in 1851, and adds that "the Hoylake fishermen had not seen the species before."

16.—BULL-HEAD OR MILLER'S THUMB. *Cottus gobio*
Linn.

PENTARW = Bull-head ; PENBWL = Knob-head ; PENBWLA = Knob-headed ; BAWD-Y-MELINYDD = Miller's Thumb ; ADAR Y BILI = "Billy's Bird."

Common in the eastern half of the district, and in parts of Carnarvon and Merioneth. Not known in Anglesey.

Eyton writes of the Bull-head as not known to occur in

Wales, although many years previously Pennant had described it as common in all our brooks, while John Williams had recorded it at Llanrwst in 1830. It certainly occurs in most of the small lowland streams in the eastern half of North Wales, though in the west it is very local, and in Anglesey unknown.

ANGLESEY. Not known to occur.

CARNARVON. Common about Bangor (Lort, Smith, Marshall).

DENBIGH AND FLINT. Occurs Llanrwst, 1830 (*Faunula Grustensis*). Common St. Asaph (Rogers). In the Clwyd (Watts). River Alyn at Rossett, November, 1891 (Walker), Mold (Cooke), Denbigh (Congreve), Nantyffrith (Kyrke), Llangollen (Owen and Ruddy), Llansilin (Lees), Rossett (Benden). In the Dee (Byerley).

MERTONETH. Common Palè (Ruddy), Llanbedr (Pearse). None at Dinas Mawddwy (Buckley). Occurs Barmouth (Lister), and Bala (J. W. Roberts).

MONTGOMERY. Common Churchstoke (Forrest), Welshpool (Bruce), Llansantffraid (Kempster), Llanllugan (Lort). Occurs Guilsfield (Beck and Mytton). In River Cain (Lort), Newtown (Jones). Known locally as "Penbulyeads"* (Williams). Common Carno (Davies), Llanerfyl (Harington), Montgomery (Brown), Vyrnwy and Tanat (Pennant, *Tour*, 1810 Ed. III., 221).

17.—FATHER-LASHER, or SEA-SCORPION. *Cottus scorpius* Linn.

SARFF-Y-MOR = Sea-serpent ; LLYFANT-Y-MÔR = Sea-Frog.

Common in shore-pools and shallow water.

Messrs. Herdman and Dawson describe this fish as "taken commonly in the shrimp-trawls in shallow water, and sometimes found in shore-pools, where it lays its eggs in spring." Other observers report it as more or less common on all parts of the coast. Mr. G. E. Bullen adds : "In common with the Boar-fish and Gurnards this species has a curious habit of

* *i.e.*, Penblyliad, the proper plural of Penbwl.

emitting a grunting noise when taken from the water. A rare gourmand is he, feeding largely on shrimps and small crustaceans, which he pursues by running swiftly over the bottom, using his tiny ventral fins as legs. He is often taken in the shrimp trawl with the *antennæ* of his latest victims dangling from his mouth, and the grunts he utters are perhaps indicative of anger at the interruption to his feast."

18.—GREENLAND BULL-HEAD. *Cottus grœnlandicus*
Cuv. and Val.

Rare.

This large and beautiful form, or sub-species of the preceding, has been taken by Mr. Gosling at Llangwyfan, Anglesey, with a rod, in thirty feet of water, and another was taken by Mr. G. Bassett at the same time and place. The colour was very brilliant, and both examples were more than double the size of the largest *C. scorpius* he ever saw.

19.—BUBALIS, LUCKY PROACH, OR FATHER-
LASHER. *Cottus bubalis* Euphr.

SARFF-Y-MOR = Sea-serpent.

Not uncommon in rock-pools.

I have received this fish from the Menai Straits through Mr. L. F. Lort, but Professor White says he has only seen a few specimens there. Messrs. A. O. Walker and Byerley state that it is taken occasionally in the Dee Estuary, and Dr. Lister has observed it at Barmouth, while Dr. Jackson has sent it to me from Aberdovey. Mr. G. E. Bullen considers this to be an estuarine species or at least that it is partial to places where there is a considerable influx of fresh water to the sea.

20.—GREY GURNARD. *Trigla gurnardus* Linn.

PENHAIARN* LLWYD = Grey Iron-head; PENIERNYN = Iron-head; GYRNET = Gurnard.

Common.

This is the most abundant of the gurnards. Amongst local fishermen it is known as "Knowds" or "Gurnets."

21.—RED GURNARD. *Trigla cuculus* Linn.

PENHAIARN COCH = Red Iron-head; GYRNET COCH = Red Gurnard.

Common.

This fish has been taken at Colwyn Bay, and is reported as plentiful in the Menai Straits by Professor White, and off south-west Anglesey by Mr. Gosling. Dr. Lister reports it as common about Barmouth. Mr. A. F. Martineau has taken it whilst whiffing off north Carnarvonshire where, however, it is far less numerous than the Grey Gurnard. Mr. H. Thomas reports it as common off Llandudno. The local fishermen call it "Soldier."

22.—SAPPHIRINE GURNARD, OR TUB-FISH. *Trigla hirundo* Bloch.

YSGYFARNOG Y MÔR = Sea-Hare; "Tubs."

Frequent on the north coast and Anglesey.

Pennant records this species from Anglesey, but Eyton does not mention it. Mr. Gosling informed me that large ones were frequent off Aberffraw. It is still numerous on broken

* A corruption, from Pengernyn (Gurnard); this became Peniernyn, then Penhiernyn, and finally Penhaiarn.

ground though the numbers have been considerably reduced by trawlers. Mr. Andrew Scott states that small specimens are frequent on the north coast, whilst the young (which are greyish) have been taken in the shrimp-trawl in the Dee during March by Mr. A. O. Walker. Messrs. Herdman and Dawson remark that "small specimens are of a greyish colour and the pectoral fins marked with blue spots, while the older fish are of a bright yellowish colour." When at rest in a tank of clear water this is a beautiful fish: its large fan-like pectoral fins extended on either side give the observer the impression of the wings of some brightly coloured exotic butterfly (Bullen).

23.—PIPER-GURNARD. *Trigla lyra* Linn.

PENHAIARN BIBYD = Piper-Gurnard.

Off Anglesey; rare.

Pennant found this species off Anglesey, yet it is not recorded by Eyton, nor does it appear in the list published by the Liverpool Biological Committee in the *British Association Report*, 1896. Mr. Gosling reported it as occurring at Aberffraw, but rarely. Mr. R. D. Williams obtained one there in July, 1903, which he sent to the Bangor University Museum, where it now is. The species is easily recognizable by the extended ray of the first dorsal fin.

24.—STREAKED GURNARD. *Trigla lineata* Linn.

PENHAIARN RHESTROG = Streaked Iron-head.

Off Anglesey; rare.

Mr. Gosling reports having "seen a few specimens" at Aberffraw. This species appears in the list published in the

British Association Report, 1896, but is omitted from Herdman and Dawson's *Sea Fisheries Memoir*.

Amongst fishermen this species is often confused with the Red Gurnard (*T. cuculus*), from which it may easily be distinguished by the abrupt jaws, even if the streaks, which are often much confused, are an insufficient means of identification. This fish is generally known elsewhere as the Bulldog-Gurnard on account of the characteristic mentioned above (Bullen).

25.—POGGE, OR ARMED BULL-HEAD. *Agonus cataphractus* (Linn.).

PENBWL (See Bull-head, p. 439).

Common in Menai Straits and estuarine waters.

Pennant describes this fish as common on most coasts, but Eyton does not mention it. Messrs. Herdman and Dawson state that it is "very common in shallow water, and is constantly brought up in the shrimp trawl; it is especially abundant at the mouths of our estuaries." Mr. Andrew Scott met with it off Bangor, and Professor White says it is common there, yet during thirty years fishing off Aberffraw, Mr. Gosling only came across two specimens. It has been noted at the mouth of the Crigyll River by Col. Long, and as common at Holyhead by Mr. R. J. Edwards, while Mr. A. O. Walker says it is very common in the Dee Estuary. Dr. J. Travis Jenkins has taken it in the trawl in Carnarvon Bay. Mr. G. E. Bullen remarks of this species: "Although generally considered to be a denizen of very shallow water, I have twice seen the *Agonus cataphractus* taken in the trawl at a depth of about thirty fathoms in the English Channel."

26.—LUMP-SUCKER. *Cyclopterus lumpus* Linn.

IAR-FOR = Sea-Hen.

Occurs on all parts of the coast; not uncommon.

This clumsy-looking fish occurs from time to time in various places. In May, 1901, I saw a very large one lying dead in Rhos weir at Colwyn Bay, and Dr. Russell and Mr. G. A. Hutchinson have seen others in the district at different times. In July, 1876, Mr. H. Thomas caught a fine one in a rock-pool by Llandudno pier, and kept it alive in a bath for several days. Eyton says, "Occasionally taken at Holyhead. I have specimens in my collection not more than three-quarters of an inch long." Mr. Gosling saw one taken in a crab-pot at Aberffraw. In the Menai Straits Professor White tells me it is common in spring. In August, 1903, I received two tiny specimens caught there by Mr. L. F. Lort. In February, 1904, an example, one-and-a-half inches long was sent to me from Pwllheli by Evan Wright. A specimen six inches long, taken near Bangor in 1797, was remarkable for its brilliant colouring. It is described in Shaw's *Nat. Miscel.*, IX., under the title *C. pavoninus*. Dr. Lister says a few have been taken at Barmouth. A female, seven-and-a-half inches long, that was spawning, was taken in Gored Goch (weir), Menai Bridge, 19th February, 1897, and a large male on 21st April. The solicitude of the parent fish for its ova is well known, and is graphically described by Professor McIntosh. The male mounts guard over the spawn amongst the rocks, and will risk the chances of being left high and dry by the receding tide rather than forsake his charge.

27.—SEA-SNAIL, OR UNCTUOUS SUCKER. *Liparis vulgaris* Flem.

MALWEN FÔR = Sea-Snail.

Common.

This fish gets its name from the slimy nature of its skin. It is common in shallow water on all parts of the coast.

28.—MONTAGU'S SUCKER. *Liparis montagui* Donovan.

Not common.

Recorded off Holyhead by Eyton, but not common. It has been taken in the Dee Estuary by Mr. A. O. Walker, and in August, 1903, I received, through Mr. L. F. Lort, several small specimens taken in the Menai Straits. Dr. Lister records it at Barmouth.

29.—SPOTTED GOBY, OR JACK SHARP. *Gobius minutus* Gmel.

GWYNIAD BRYCH = Spotted whitish (fish); CRAIGBYSG DU BRYCH = Black Spotted Rock-Fish.

Plentiful in shore-pools on all coasts.

Yarrell records this little fish as taken at Holyhead, but it is not in Eyton's list. Mr. Gosling has found it occasionally at the mouth of the River Aberffraw, and Mr. Andrew Scott says it occurs in sandy bays along the coast of North Wales. Messrs. Herdman and Dawson say : "This is our commonest Goby, being plentiful along our sandy shores and in pools. Mr. A. O. Walker has recorded its abundance in our district." Dr. J. Travis Jenkins records it in 10-fathom water two miles west-south-west of Tremadoc, 21st July, 1905. I have had it from Menai Straits, through Mr. Lort, and found it abundant in shore-pools at Rhyl, Barmouth, and other places. Some which I sent from the latter place in June, 1905, were identified by Mr. G. A. Boulenger as belonging to the variety *major* (Heincke). It is a small species, with, generally, speckled appearance, and most nearly resembles *G. ruthensparri*, but lacks the spots seen in that species. In the adult the hind margin of the first dorsal is dark bluish at the base—a distinctive character. The variety *major* is, generally

speaking, more frequent in shallow sandy bays. Adults are rarely taken on shore. The *type* does not exceed two inches in length. Day's *G. parnelli* is now regarded as a form of this species.

30.—ROCK-GOBY. *Gobius niger* Linn.

CRAIGBYSG DU = Black Rock-Fish.

Fairly common in pools along rocky shores.

This is a comparatively large species, and closely resembles *Gobius paganellus*, but lacks the orange band on the first dorsal fin which distinguishes *paganellus*, and has only thirteen rays in the second dorsal, whilst the first dorsal has filaments along the margin. Byerley mentions having taken it at Hilbre Island. It has been recorded at Holyhead by Eyton, off Aberffraw by Mr. Gosling, and in the Menai Straits by Professor White, whilst wherever I have sought for it I have found the Rock-Goby more or less common under the seaweed in rock-pools.

31.—TWO-SPOTTED GOBY. *Gobius ruthensparri* Euphr.

Common in shore-pools.

Eyton obtained this species at Holyhead, and Professor White describes it as common in the Menai Straits, whilst Messrs. Herdman and Dawson record it in other estuaries. Mr. A. O. Walker says it is common in the Dee Estuary. I received several in August, 1903, taken by Mr. L. F. Lort in the Menai Straits. This Goby is called by some of the fishermen locally "the lady-hen." It has a dark spot at the base of the tail, and another at the back of the gill-cover. It has also seven spines in the dorsal fin—all other gobies have but six.

[FOUR-SPOTTED GOBY. *Gobius quadrimaculatus*
Cuv. and Val.

Mr. G. E. Bullen writes: "It is highly probable that this fish occurs on the trawling grounds, but has been overlooked by observers hitherto. The species may easily be identified by the four black spots occurring on the sides—a distinctive marking.]

[PAGANELLUS. *Gobius paganellus* Gmel.

Not certainly identified, but probably occurs in rock-pools.

Messrs. Herdman and Dawson write: "Probably occurs in rock-pools. . . . We fear it has frequently been confused with *G. niger*." There is very little doubt that the Paganellus would be found in the district if carefully sought for, especially in the Menai Straits, as it is partial to weed-covered rocks.]

32.—PAINTED GOBY. *Gobius pictus* Malm.

Not uncommon on the north coast and Menai Straits.

The example figured by Day in his work on *British Fishes* was sent to him from Colwyn Bay by Mr. A. O. Walker. "Some specimens obtained by Mr. Walker in shore-pools at Colwyn Bay, in June, 1894, and sent up to the British Museum, were identified by Dr. Günther as belonging to his species *G. rhodopterus*, but it is still doubtful whether or not that species is merely a synonym of *G. pictus*. Mr. Walker writes to us (July, 1901) that it is 'not uncommon in shore-pools at Colwyn Bay.' Professor White has found it in the Menai Straits."* Mr. Gosling took several with the shrimping net at the mouth of the River

* Herdman and Dawson.

Ffraw, which he believed were of this species. It is easily identified by the bands of spots along the bases of the dorsal fins. This is a beautiful species, vying with *G. ruthensparri* in its minutely delicate markings.

33.—WHITE GOBY. *Aphia pellucida* (Nardo.).

Numerous occasionally in the Menai Straits and off south-west Anglesey.

Mr. Gosling found this species occasionally at Aberffraw, and Mr. A. Scott has identified it in the weir at Bangor, where it is occasionally found in great numbers. Professor White says "in 1897 this fish was very abundant in the Straits, but both before and since it has only been taken sparingly." The name of this species belies its appearance; in life it is colourless save for a faint pinkish blush which overcasts its transparent iridescence; this, however, quickly fades after death. It seems to go about in shoals.

[NILSSON'S GOBY. *Crystallogobius nilssoni* (Düben.).

This fish is rarely obtained, as it frequents deep waters, and is never captured by nets owing to its small size. It is a favourite food of the John Dory, and would probably be found if the contents of the stomachs of those taken in North Wales waters were examined.

Mr. G. E. Bullen remarks: "This species, occasionally so fairly abundant in the English Channel as to form a large item on the menu of the late summer Mackerel, occurs in the Bristol Channel, and has doubtless escaped notice hitherto from this area. It is highly probable that a systematic search of stomach-contents of the John Dory, for instance, would place this species on the present list."]

34.—JOHN DORY. *Zeus faber* Linn.

SION DORI = John Dory.

Occasionally taken off the west coast.

Eyton took this fish off Holyhead, but he marks it as rare. Pennant says: "It has been discovered on the coasts of Carnarvonshire and Anglesey." It is occasionally taken in the trawl off Carnarvonshire, but Mr. Gosling never met with it off Anglesey, and the trawlers told him it was rare. Mr. Andrew Scott has seen it taken in the weir off Bangor, and Professor White reports it in the Straits as "Occasionally taken but not plentiful." Local specimens are rarely more than five inches long. Dr. J. H. Lister says a few have been taken at Barmouth, and Mr. Fear reports it as occasionally caught in Cardigan Bay. Dr. J. Travis Jenkins has taken this species near Puffin Island in autumn 1904 and 1905. Referring to the fishery off Lley, Pennant writes in his *Tour*: "Dories are often taken here. The fishermen were wont to fling them away on account of their ugly appearance; nor was this luxury known to the gentry till one of their servants, who was acquainted with the fish, informed them of its being an inhabitant of these seas." The name is derived from its coloration, "*Jaune dorée*" = Yellow gilt. This fish, in common with many others, enjoys the reputation of being the species from the mouth of which the tribute money was taken. The distinctive black spots were supposed to be caused by the impress of the finger and thumb of the disciple.

35.—SCAD, OR HORSE-MACKEREL. *Caranx trachurus*
(Linn.).

MACRELL Y MEIRCH = Horse-Mackerel.

Occasionally met with.

Dr. Russell tells me one was caught at Colwyn Bay in April, 1901, whilst another was obtained by Professor White near Carnarvon in December, 1902, and placed in Bangor University museum. Dr. Lister believes it has been taken at Barmouth. Mr. Gosling reports it as occurring in the summer off Anglesey, and Parnell mentions that in 1834 prodigious numbers were off the Welsh coast. Mr. G. E. Bullen remarks: "Strictly speaking, this is a drift-fish at certain seasons of the year, moving about in small shoals which are often mistaken for those of Mackerel. The fishermen declare that when Scad are caught in any numbers amongst Mackerel it is a sure indication of the approaching breaking-up of the drift-netting season; Mackerel apparently being disinclined for some reason or other to shoal with other fish of a different species. This phenomenon is strikingly noticeable in the case of the Pilchard on the approach of the shoals of winter-Herring in the English Channel."

36.—MACKEREL. *Scomber scombrus* Linn.

MACRELL, plural MECRYLL = Mackerel.

Common; sometimes very numerous in summer.

Common in the summer months along the coast. "Small Mackerel generally appear in Cardigan Bay . . . in June and work round the coast to Anglesey, and then along the north coast of Wales, so as to reach the Liverpool district in July and August, and if the water remains smooth, with winds

hanging off the land, the shoals may remain some time and large numbers be caught both with lines and with stake-nets. As soon as a westerly wind sets in and any sea rises they leave our waters . . . At Holyhead anchored nets are used.”* Mr. A. F. Martineau has found Mackerel numerous most years, up to September, off Nevin, and he saw one taken with a rod in Porth Dinlleyn Bay that weighed three-and-a-half pounds; generally, however, they are much smaller. In September large shoals of small fish enter the Dovey Estuary; many being taken with the rod off the pier at Aberdovey.†

37.—RAY’S BREEM. *Brama raii* Bl.

Obtained once off west Anglesey.

Mr. E. Gosling tells me that he saw a specimen which came ashore in Porth Leidiog, near Aberffraw, in the eighties. This is a deep-water fish, and rarely obtained on our shores. Most of those recorded have been washed up after storms. The first obtained in this way was in 1681, and, being described by John Ray, was named after him.

38.—OPAH, OR KING-FISH. *Lampris luna* (Linn.).

BRENHINBYSG = King-fish.

Rare; obtained off west Anglesey and in the Dee and Conway Estuaries.

In the *Field*, December 1st, 1900, is an account of a fine specimen of this rare and beautiful fish, which came ashore on November 21st at Rhosneigr, Anglesey. It measured four feet three inches by two feet six inches. Byerley records a specimen caught by a Hoylake fisherman in the Dee Estuary in 1839. This was subsequently placed in the

* Herdman and Dawson. † Jackson.

Liverpool Museum, where it is still. Couch mentions an example taken at Conway. The Opah is never obtained except when accidentally cast ashore in rough weather.

39.—SWORD-FISH. *Xiphias gladius* Linn.

Recorded twice—off Flint and Anglesey.

This fish is not in Eyton's list, though Pennant mentions one caught near Flint in October, 1785. Mr. E. Gosling writes:—"In August, 1878, when sitting on the rocks at Ynys-y-meibion on the west side, I saw a Sword-fish jump three times close to me. It appeared to be about twelve feet long, and of a greenish colour. Sword-fish were numerous that year all round the south and west coasts of England, and several were taken in the English Channel." No Welsh examples are recorded by Messrs. Herdman and Dawson, however.

40.—GREATER WEAVER, OR SEA-CAT. *Trachinus draco*
Linn.

MÔR WIBER FAWR = Great Sea-Viper.

Not common generally, but occurs off the west coast and in the Menai Straits.

Eyton states that this species is found occasionally on the Welsh coast, but Mr. Andrew Scott has met with it nowhere in the district except in Cardigan Bay. Professor White, however, says it is common in the Menai Straits in July, August, and September. Messrs. Herdman and Dawson "have taken it outside the Aberdovey Bar," and "two off the west coast in May, 1901." Dr. J. H. Lister tells me that it has been taken occasionally on mackerel-lines off Barmouth.

41.—COMMON WEAVER, OR STING-FISH. *Trachinus vipera* Cuv. and Val.

MÔR WIBER = Sea-Viper.

Common on sandy shallows.

The Weaver is common on sandy coasts. In the Menai Straits Professor White reports this as less common than the last species, though Messrs. Herdman and Dawson state that throughout the district *T. draco* is much the rarer of the two species. They have taken *T. vipera* in the Dee Estuary and Menai Straits, and "it is abundant along the outlying banks. The presence of these poisonous fishes amongst the shrimps is one of the reasons why shrimping is not carried on during the night, as it would be dangerous to attempt sorting out the catch in the dark. It was shown by Byerley that both the double-grooved opercular spine and also the spines of the first dorsal fin are poison organs." Mr. Gosling states: "It is the custom of the Anglesey people to apply stale excrement to the wound in order to allay the pain, which it certainly seems to do." Dr. Lister reports this species as common off Barmouth; Mr. Martineau says the same of the Nevin shore; Mr. H. Thomas of Llandudno district, and Dr. Jackson of the Dovey Estuary.

42.—GEMMEOUS DRAGONET (Male), DUSKY SKULPIN (Female). *Callionymus lyra* Linn.

MÔRDDRAIG EMMOG = Gemmed Sea-dragon; "The Bishop."

Not uncommon, especially off the north coast and Anglesey.

Both sexes have been taken occasionally by Mr. Gosling when Dab-fishing with mussels at Aberffraw, but mostly females. Mr. A. Scott has also taken them in Beaumaris Bay, whilst

Professor White says Dragonets are not uncommon in the Menai Straits, and Messrs. Herdman and Dawson add that they are frequently taken at the mouth of the Dee and other estuaries in shrimp-trawls. Dr. J. H. Lister has taken them also in the trawl off Barmouth, but rarely. The term "gemmeous," it may be mentioned, is derived from the fact that this species has a conspicuous horny process of a greenish tint projecting from the post-opercle.

43.—TWO-SPOTTED SUCKER. *Lepadogaster bimaculatus*
(Penn.).

Recorded off west Anglesey.

Occasionally taken by Mr. Gosling at Aberffraw. This small species is seldom met with on the shore itself, as it frequents rather deep water down to twenty fathoms. The variety of coloration exhibited in this species led Couch and other early writers to describe several species of the genus. These have now been reduced to three distinct forms. The third, *L. decandolii* has not been recorded hitherto for this area.

44.—CORNISH SUCKER. *Lepadogaster gouanii* Lacep.

Recorded off west Anglesey.

Frequently taken by Mr. Gosling in crab-pots at Aberffraw, Anglesey, so would probably also be found amongst rocks on the beach. Mr. G. E. Bullen remarks: "The tenacity with which this species anchors itself to a suitable surface is remarkable. If removal of the fish were attempted by the tail, that organ would be seriously damaged before the fish could be induced to release itself."

45.—ANGLER-FISH. *Lophius piscatorius* Linn.

LLYFFANT Y MÔR = Sea-Frog; DIAWL Y MÔR = Sea-Devil.

Occasionally taken on all coasts.

This grotesque-looking fish is occasionally caught in herring-nets off Holyhead and Criccieth; one caught at Criccieth measured three feet eight inches in length. Mr. Gosling has seen several taken at Aberffraw, and two of his men caught one which is said to have weighed one-and-a-half hundred-weight—nearly double the size of any which he saw himself. Eyton had “a specimen three feet eight inches long, from which was taken nine Herrings and a Leopard-shark eighteen inches long.” Mr. Andrew Scott has met with it occasionally along the north coast, whilst Professor White says that in the Menai Straits it is not uncommon. “It is sometimes caught in Rhos Weir, near Colwyn Bay, and Mr. Siddall, Chester, tells us that in June, 1901, he found one there four feet six inches long, and two feet wide, which had a round brass tray twelve inches in diameter fixed in the back of its mouth, and fitted so tightly that it could not be removed.”* The Angler is found occasionally in the River Dee, and Dr. Lister has known a few taken off Barmouth, whilst a little further north Mr. H. G. Attlee saw a large one (quite three-and-a-half feet long) cast ashore at Llanbedr a few years ago. Dr. J. Travis Jenkins has frequently taken Angler-fish in the trawl on all parts of the coast. In 1885, Mr. H. Thomas caught one by Llandudno pier, and kept it alive for several days in an aquarium.

* Herdman and Dawson.

46.—WOLF-FISH. *Anarrhicas lupus* Linn.

MÔR FLAIDD = Sea-Wolf.

Recorded off the west coast and in Menai Straits.

An example of this savage-looking fish was taken off Barmouth in May, 1887.* In the Menai Straits, Professor White tells me, he has "so far only seen young specimens."

47.—TOM POT, OR GATTORUGINE. *Blennius gattorugine* Bloch.

Met with off Anglesey and the west coast.

Pennant records that this fish was "first discovered in Britain off the Anglesey coast," and Eyton obtained one in the neighbourhood of Holyhead. Mr. Gosling caught several specimens at Aberffraw, whilst Professor White has also taken it in Cardigan Bay. This is the largest of the genus, sometimes attaining a length of nine inches. It has a forked tentacle above each eye, whilst its general coloration is brownish with black streaks.

48.—SHANNY. *Blennius pholis* Linn.

CLERIACH GWYMON = Sea-weed Spawn.

Plentiful in shore-pools everywhere.

This is one of the commonest of shore-fishes. Pennant found it "in plenty lying under stones on the rocky coast of Anglesey at low-water mark," and Mr. Gosling says it is

* *Zoologist*, 1887, 273.

common at Aberffraw; but Donovan stated about 1820 that it had vanished from the Anglesey coast, except in one spot, and attributed this to the tang having been cleared away for the use of glass-makers, etc. Dr. J. H. Lister records it as plentiful about Barmouth, and I have received it from Aberdovey through Dr. Jackson. The Shanny is extraordinarily tenacious of life, and is not killed even by immersion in fresh water. Specimens which Mr. G. A. Hutchinson sent me from Colwyn Bay survived forty-eight hours out of water.

49.—MONTAGU'S BLENNY. *Blennius gallerita* Linn.

Recorded off Anglesey.

Eyton mentions this fish as taken only once in the creek dividing Holyhead Island from Anglesey. Mr. G. E. Bullen writes of this species: "The close resemblance of *B. gallerita* to young examples of *B. pholis* would easily account for this species, which, however, is by no means common, being overlooked. I once emptied a small rock-pool with my hands, one situated almost at high-water mark, and from it obtained the nine specimens which are in my collection. In the same pool were also five small Shannies. Until the specimens were placed in a jar of water, when the *B. gallerita* at once erected the crest, it was impossible on a casual examination to distinguish the species. The largest specimen, a female in ova, measured fifty-two millimètres."

[YARRELL'S BLENNY. *Carelophus ascanii* (Walb.).

This species has been taken, though rarely, off the east coast of Ireland, and probably occurs also off the Welsh coast, though hitherto it has not been identified in the district.]

50.—BUTTERFISH. *Centronotus gunnellus* (Linn.).

NEIDR FÔR = Sea-Adder.

Common in rock-pools.

Eyton met with the Butterfish at Holyhead, but describes it as not common. It is common in rock-pools, however, and Mr. Gosling says it is "very plentiful and makes good live bait." Jenyns, too, says it is not uncommon, particularly off the coast of Anglesey. It was obtained from Anglesey by Pennant, who called it the Spotted Blenny, whilst at the present day Professor White reports it as common in the Menai Straits. Messrs. Herdman and Dawson write: "It is abundant all round our coasts in shore-pools and under stones between tide marks"—a statement confirmed by other observers in various places. As a live bait Dr. Jackson says it is not a success at Aberdovey. The solicitude of the parent fish for the ova has been described by several authors.

51.—VIVIPAROUS BLENNY. *Zoarces viviparus* (Linn.).

Recorded off Anglesey and Barmouth; not common.

Mr. Gosling has seen this fish at Aberffraw, Anglesey, whilst at Holyhead and Barmouth Eyton recorded it as common. In the Menai Straits Professor White has only seen one or two specimens. I think Eyton was mistaken in speaking of it as common—it is certainly not so at the present day. The fecundity of this fish is well known: as many as three hundred fully developed young have been found in a single female: their average length at birth has been found by Mr. G. E. Bullen to be twenty-five to thirty millimètres.

52.—COD. *Gadus morrhua* Linn.

CODSYN = Cod ; PENFRAS = Fat-head.

Common, especially off rocky coasts.

Cod are sometimes very abundant at the mouth of the Dee. Mr. Gosling says that at Aberffraw they are particularly numerous and large: off Carreg Draï he frequently took examples of a very dark chocolate colour with gold stars, seven to ten pounds weight, and he never saw a small one. The colour may have been due to the fish living amongst Oar-weed, but they seemed a very distinct variety. Exceedingly fine Cod-fish are taken in Bull Bay, Amlwch. Pennant mentions Cod as abundant off the Skerries.* They are reported as common off Barmouth; codlings being often abundant also in Nevin Bay and other places along the west coast, but Dr. S. Jackson says that in the Dovey Estuary they are very small, rarely reaching two pounds. Cod are numerous in autumn about Llandudno, where they often reach six to seven pounds weight, while occasionally a much heavier fish is caught.†

53.—HADDOCK. *Gadus aeglefinus* Linn.

HADOG = Haddock.

Occasionally taken, but not at all common.

Eyton says the Haddock is "caught occasionally on most parts of the coast." I do not think it is numerous anywhere round the coast of North Wales, for hardly any of the fishermen seem to know it, and Mr. Gosling in his long experience never met with it off west Anglesey. Mr. A. Scott, however, says it is taken in Beaumaris Bay, though

* *Tour*, 1810 Ed. III., 70.

† Brookes.

not common. Professor White adds "only one or two have been taken in Menai Straits during the past twelve years, but of course it is taken outside in deep water." It is much more frequent off the Isle of Man, but I have been told by an old Manx fisherman that although he could remember years when Haddock were extremely plentiful, sometimes for several years together very few are caught. Dr. Lister has known it taken in herring-nets occasionally off Barmouth, and Mr. A. F. Martineau has twice taken Haddock in Nevin Bay, both times at the surface of the water. Mr. R. Fear, fishmonger, Aberystwyth, says that Haddock are taken occasionally in Cardigan Bay, and Mr. H. Thomas reports the same of the Llandudno district.

54.—BIB, POUT, OR WHITING-POUT. *Gadus luscus* Linn.

COD LWYD = Grey Cod.

Fairly common.

This fish is readily distinguished from the next by its greater depth, and by the dark bands across the back. It is a rock-loving species, feeding exclusively on molluscs. Yarrell mentions it on the Carnarvonshire coast, whilst many observers have met with it round Anglesey and in the Menai Straits. Donovan, however, wrote of it as rare on the Welsh coast, where the fishermen call it the "Miller's Thumb." He seems to have been mistaken as to the species.

55.—POWER, OR POOR COD. *Gadus minutus* Linn.

CWDYN EBRILL = April Pouch.

Not uncommon.

Messrs. Herdman and Dawson describe this species as "frequently taken with other fish in the trawl in deep water

all the year round, but never many at a time." Mr. Gosling, however, found it abundant off the coast about Aberffraw, and Byerley recorded it off Hilbre Island. The immature fish so closely resemble the young of the preceding species that they are probably often overlooked: few fishermen can distinguish between them.

56.—COAL-FISH. *Gadus virens* Linn.

CHWITLYN GLAS = Blue Whiting; Local "BLUFFIN" (young).

Fairly common, especially round Anglesey.

Mr. Gosling says swarms of small Coal-fish appear in some of the Anglesey bays; large ones on the bottom a little further out. Professor White found it common in the Menai Straits, whilst Mr. A. O. Walker describes it as "present but not very common at Colwyn Bay and Rhos Weir." A few have been taken off Barmouth by Dr. Lister, and Mr. A. F. Martineau says it runs up to a considerable size at Porth Dinlleyn. Pennant describes these fish as occurring off the Skerries "in most amazing multitudes, and even crowding their backs above water,"* while Mr. H. Thomas reports it as not uncommon off Llandudno. Mr. G. E. Bullen writes of this species: "The Coal-fish occurs in certain Scottish lochs in such swarms that line fishing is impossible. The young, known as 'Podleys,' will take anything resembling a bait at any depth, so that long before the plummet ever touches the bottom one of the swarm has been hooked, fair or foul as the case may be. Speaking from my own unbiassed experience the Podley is not a food fish, although I have it on good authority that numbers are consumed daily in Edinburgh and Glasgow restaurants."

* *Tour*, 1810 Ed. III., 70.

[POUTASSOU. *Gadus poutassou* (Risso).]

Mr. G. E. Bullen has recently examined several examples of this somewhat scarce deep-water species. They were taken in Mackerel-nets in the Bristol Channel, and appeared to have been preying on the enmeshed fish in company with small Hake. It is highly probable that the Poutassou would follow the shoaling Mackerel into our area, and occur there under similar circumstances. Its resemblance to *Gadus merlangus* would readily account for its having been hitherto overlooked in North Wales.]

57.—WHITING. *Gadus merlangus* Linn.

GWYNIAD Y Môr = Sea - Whiting ; CHWITLYN GWYN = Whiting.

Common on sandy coasts at times, chiefly in winter.

Many observers report the Whiting as common at times on sandy parts of the coast, but it appears to be somewhat irregular in its visitations. Thus Dr. S. Jackson states that in the autumn of 1902 Whiting were plentiful in the Dovey Estuary, and of good size, but few were taken during the following three or four years. Mr. E. Gosling noted them as plentiful at Aberffraw in 1900, whilst in the Menai Straits Professor White reports them as common. Pennant describes them* as very abundant off the Skerries. There is generally good Whiting-fishing off Llandudno in the winter, whilst Mr. A. F. Martineau has taken many off Nevin, and Dr. Lister in the Barmouth district.

* *Tour*, 1810 Ed. III., 70.

58.—POLLACK, OR LYTHER. *Gadus pollachius* Linn.

Common; very large ones on the Anglesey and Carnarvon coasts.

To the sea-angler the Pollack affords fine sport, and the late Mr. E. Gosling used to write in the *Fishing Gazette* most enthusiastically of the Pollack-fishing at Aberffraw. This species is partial to rocky inlets such as those on the west coast of Anglesey and flourishes there amazingly, nearly all those taken there being of large size. Mr. Martineau reports the same of Porth Dinlleyn, Carnarvonshire, whilst off Llandudno Mr. Brookes says Pollack are caught up to seven or eight pounds weight: June is the best month for fishing. Dr. J. Travis Jenkins has taken Pollack at sea some miles to the north of the Great Orme's Head, as well as in St. Tudwal's Roads, but has not found it plentiful. Indeed the species seems to be mainly confined to small bays and inlets. At Aberdovey Dr. S. Jackson reports it as plentiful but small, the largest he has taken being only three-and-a-half pounds, in September 1906. The sea-bottom thereabouts is too flat and sandy for the larger fish. The Pollack is distinguished from its congeners by the pointed muzzle and protruding lower jaw. It is strange that so common a fish should have no recognized Welsh name.

59.—HAKE. *Merluccius vulgaris* Cuv.

CEGDDU = Black-mouth.

Taken occasionally in deep water.

The Hake is a predaceous fish found mainly in deep water, and in North Wales appears to be far from numerous. Possibly, however, this scarcity is more apparent than real, few being taken because so little deep-sea trawling is done here. Still, the fish cannot be common for not a single Hake was

taken by the Fisheries Trawl during 1904-5. Mr. Gosling only took one during his long experience of fishing at Aberffraw, but remarks that he "never tried for them in the Herring-season when no doubt they strike in after the shoals." They are occasionally taken in deep water to the north of Anglesey, Llandudno,|| in the Menai Straits,† and off Barmouth.§

60.—LING. *Molva vulgaris* Flem.

HONOS = Gawk.

Not uncommon.

Like the last the Ling is a deep-sea fish, but much more common, being plentiful off Aberffraw,* and not uncommon in the Menai Straits.† It is taken on the long lines at Cemlyn, on the north of Anglesey,‡ and occasionally off Barmouth§ and Llandudno.||

61.—FIVE-BEARDED ROCKLING. *Motella mustela* (Linn.).

BRITHYLL MAIR = St. Mary's Trout.

Fairly common where the sea-bottom is weedy.

None of the Rocklings appear in Eyton's list, though all three occur off Anglesey. The present species is common at Aberffraw,* where also the young—known as "Mackerel Midge"—is sometimes very abundant. Professor White says the species is not uncommon in the Straits; and it has been obtained at Colwyn Bay.‡ I received one from Evan Wright, Pwllheli, February 5th, 1904, and another from Mr. Lort, Menai Straits, in September, 1904. Dr. Jackson and I have also taken it in the Dovey Estuary, whilst Dr. Lister has met with it at Barmouth, and Mr. H. Thomas at Llandudno.

* E. Gosling.

§ Dr. Lister.

† Professor White.

|| H. Thomas.

‡ Herdman and Dawson.

62.—FOUR-BEARDED ROCKLING. *Motella cimbria*
(Linn.).

Much rarer than the last; recorded only off Anglesey.

Obtained at Aberffraw by Mr. E. Gosling. Since this is a northern species, yet has been taken in the Bristol Channel, it must almost certainly occur off the west coast elsewhere.

63.—THREE-BEARDED ROCKLING. *Motella tricirrhata*
(Bloch).

BRITHYLL MAIR = St. Mary's Trout.

Not uncommon.

Dr. W. B. Russell reports this fish as taken at Colwyn Bay; and it is common round Anglesey, where Mr. E. Gosling has found the young—known as “Thompson's Midge”—plentiful off Aberffraw. It was recorded by Willoughby under the name of *Mustela vulgaris* (Rondelet) in the Dee Estuary, near Chester, during his visit there in the year 1671. He says that the fishermen called it the Sea-Loche.* It is still met with occasionally in the Dee, and was recorded by Buckland at Bangor.

64.—GREATER FORK-BEARD. *Phycis blennoides*
Gmel.

Rare.

Not in Eyton's list, though Pennant mentions one taken off the coast of Flintshire. Mr. Gosling has noted it two or three times off Aberffraw, and there is a specimen from Colwyn Bay in the Grosvenor Museum, Chester.

* *Historia Piscium*, 1686, p. 121.

65.—LESSER FORK-BEARD, OR TADPOLE-FISH.

Raniceps raninus (Linn.).

Rare.

Not in Eyton's list. It was first described by Pennant (who calls it the "Trifurcated Hake") from an example taken near Puffin Island by Rev. Hugh Davies. Mr. Gosling has only once met with it off Aberffraw. Professor White also has seen only one specimen taken in the Straits in the last twelve years. "Mr. Walker found it in Rhos weir on April 24th, 1888; the specimen is now in the Grosvenor Museum, Chester. He tells us that only three specimens have been taken in the weir in thirty-five years."*

66.—HOLIBUT, OR HALIBUT. *Hippoglossus vulgaris* Flem.

LLEDEN CHWITH = Left-hand Flat-fish; LLEDEN FFREINIG = Fierce Flat-fish.

Very rarely taken; probably occurs in deep waters away from the coast.

A Halibut, seven and a half feet long and weighing three hundred and twenty pounds, was taken off the Isle of Man in April, 1828.† Pennant mentions the Halibut as having been taken in the Menai Straits, but it is very rarely met with off North Wales. Neither Mr. Gosling nor Mr. Scott ever saw or heard of one being taken. I have enquired of many local fishermen, but all reply to the same effect. The scarcity of the Halibut in the Welsh seas is very remarkable.

* Herdman and Dawson.

† *Loudon's Magazine*, I., 82.

67.—LONG ROUGH DAB. *Hippoglossoides limandoides*
(Bloch).

Very rare.

Professor White has found this fish in the Menai Straits, but it is very rare.

68.—TURBOT. *Rhombus maximus* (Linn.).

TORBWT = Turbot; LLEDEN CHWITH = Left-hand Flat-fish.

Fairly common.

Occurs off the west coast and Anglesey. Pennant expresses regret that the Welsh were ignorant of the best method of catching Turbot, and describes this in detail. It is often caught in the trawl off Criccieth. Mr. Gosling records it as common at Aberffraw, adding that one fourteen pounds weight was taken there in the summer, 1901, whilst Eyton took it at Holyhead, and Mr. A. O. Walker tells me that he caught one twelve pounds weight with the trawl off Colwyn Bay some years ago. Dr. S. Jackson says that in the Dovey Estuary Turbot are often taken in the footnets at night—rarely by the line—but a fisherman named John Thomas once hooked a very large one weighing twenty-one pounds. Dr. Lister adds that at Barmouth Turbot are common, as they are, indeed, all over Cardigan Bay.

69.—BRILL. *Rhombus lævis* Rondel.

PERL = Pearl.

Fairly common.

Eyton describes the Brill as common in North Wales, and Messrs. Herdman and Dawson state that in Cardigan Bay it

is usually more numerous than the Turbot. About Criccieth, however, it is said to be not very common, and it is only occasionally met with in the Llandudno district. Professor White records it as common in the Menai Straits, and Dr. Lister says the same of the Barmouth district.

70.—COMMON TOP-KNOT. *Zeugopterus punctatus* Bloch.

Rather rare, recorded only from Anglesey.

None of the Top-knots appear to be at all common in North Wales, and they are not alluded to by any of the older naturalists. Day mentions the present species as occurring off Anglesey on the authority of Mr. "Gosden" (probably a misprint for Mr. Gosling). Mr. E. Gosling informed me that he had taken it very occasionally off Aberffraw, and in May, 1903, Mr. R. D. Williams sent me a specimen from that locality, and this is now in Bangor University Museum. I believe he has obtained one other since.

71.—ONE-SPOTTED TOP-KNOT. *Zeugopterus unimaculatus* (Risso).

Rare; occurs off Anglesey.

This species has also been taken at Aberffraw by Mr. Gosling. Professor White obtained one near Bangor in the autumn of 1903 and placed it in the University Museum.

[NORWEGIAN TOP-KNOT. *Zeugopterus norvegicus* Günth.

A specimen, three inches long, in the museum of University College, Liverpool, was obtained off the Calf of Man.]

72.—SAIL-FLUKE, MEGRIM, CARTER, OR WHIFF.
Lepidorhombus megastoma (Donov.).

LLEDEN-ARW SAFNRWTH = Rough Open-mouthed Flat-fish.

Occasionally taken; not common.

Pennant describes an example taken in the Dee Estuary in 1777,* and Mr. Gosling has obtained it off Aberffraw occasionally; Eyton took one off Holyhead, and Donovan records it off Carnarvonshire. Professor White says it is taken occasionally in Carnarvon Bay, but is not common. Byerley records it from the mouth of the Dee. Dr. J. Travis Jenkins took four in the trawl at a depth of twenty fathoms in Carnarvon Bay, eight miles west of Carnarvon, 26th May, 1905. It is much more plentiful in deep water off the Isle of Man.

73.—SCALD-FISH. *Arnoglossus laterna* (Walb.).

Rather rare.

Mr. Andrew Scott has taken this species in Carnarvon Bay. Byerley records it from the mouth of the Dee in 1854, and it is still caught there occasionally. Dr. J. Travis Jenkins took one in six-fathom water in Barmouth Bay, 30th August, 1905. This species derives its name from the fact that its scales are detached by the lightest handling just as if the fish had been scalded.

74.—PLAICE. *Pleuronectes platessa* Linn.

LLEDEN FRECH = Spotted Flat-fish; LLEDEN GOCH = Red Flat-fish.

Very common, but does not grow large here.

The Plaice is the most abundant of the flat-fishes throughout

* *Tour in Wales*, 1810 Ed. I., 29, with plate.

the district. Mr. A. Scott says: "Small specimens, up to twelve inches, are common, but large Plaice are scarce all along the coast of North Wales." Dr. Jackson has taken them in the Dovey Estuary up to three-and-a-half pounds and has seen larger ones caught. Mr. Brookes says they are taken by angling from the pier-head at Llandudno up to three pounds and over. Mr. E. Gosling caught a beautiful variety off Aberffraw, about 1882: the spots were the shape and colour of petals from a scarlet geranium.

75.—SMEAR-DAB, OR LEMON-DAB. *Pleuronectes microcephalus* Donov.

LLEDEN IRAIDD = Fresh Flat-fish.

Fairly common in the west; rarer on the north coast.

Mr. Andrew Scott says this species is occasionally taken in the trawl, whilst Professor White records it as common in the Menai Straits. Mr. A. O. Walker says it is not common on the north coast, but he once took it off Prestatyn. Mr. R. Fear, of Aberystwyth reports it as fairly common in Cardigan Bay, whilst Messrs. Herdman and Dawson add that it is fished in fair numbers there and in Red Wharf Bay, Anglesey. Mr. Gosling does not seem to have met with it at Aberffraw. Local names for this fish are "Lemon-Sole," and "Mary (or Merry) Sole."

76.—POLE-DAB, OR CRAIG-FLUKE. *Pleuronectes cynoglossus* Linn.

Not common.

Messrs. Herdman and Dawson state that this fish is not common on the Welsh coast, but has been taken in the Menai Straits and elsewhere. Dr. J. Travis Jenkins reports having taken it in the "Fisheries" trawl four miles south of Cilan Head, Carnarvonshire, 26th June, 1904. It is known locally as the "Witch."

77.—DAB. *Pleuronectes limanda* Linn.

LLEDEN GENNOG = Scaly Flat-fish; LLEDEN DWFR CROYW = Clear-water Flat-fish.

Common.

The Dab is common in sandy places all round the coast. The local names are "Sand-Scar" or "Garve."

78.—FLOUNDER, OR FLUKE. *Pleuronectes flesus* Linn.

LLEDEN DDU = Black Flat-fish; LLEDEN Y LLAIID = Flat-fish of the Slime.

Common in the estuaries and ascends rivers for many miles.

The Flounder is plentiful in all the estuaries, and I have met with it in streams at some distance from the sea, *e.g.*, at Dinas Mawddwy, where the fish have to ascend against a strong stream tumbling amongst boulders. Messrs. Herdman and Dawson write: "The Flounders come down the river ('make their run') early in January in order to spawn at sea. They are said to be driven down the rivers by the frost, while at sea they are commonly caught in the trawl along with Plaice; both fish are found spawning together from February to April." Flounders are abundant in the estuary at Aberdovey, and I have received specimens thence from Dr. Jackson. Mr. W. M. Gallichan reports it as common also in the Mawddach Estuary and in the tidal parts of tributary streams. The Flounder used regularly to ascend the Severn as far as Montgomeryshire until the construction of navigation weirs in the lower part of its course prevented the fish passing upwards. Pennant mentions it amongst the list of fishes found in the River Vyrnwy.* Mr. Willoughby

* *Tour*, 1810 Ed. III., 222.

Gardner has seen Flounders in the Conway River, above Trefriw, and in the Clwyd near its junction with the Elwy.

79.—SOLE. *Solea vulgaris* Quens.

TAFOD Y HYDD = Stag's Tongue ; TAFOD YR YRCH = Ox's-tongue.

Common.

The Sole is common off Abergele, Beaumaris Bay, Aberffraw, Criccieth, and indeed on all sandy coasts. The Sole-fishery of the district is very valuable, and according to Messrs. Herdman and Dawson is improving rather than deteriorating in regard to the average weight of the fish taken. Dr. Jackson reports Soles taken as far up the Dovey Estuary as Trefri.

80.—LEMON-SOLE, FRENCH SOLE, OR SAND-SOLE.

Solea lascaris Risso.

Not common.

Professor White says this fish occurs in the Menai Straits. Dr. J. Travis Jenkins reports two taken in the trawl in Barmouth Bay in six to seven-fathom water, 30th August, 1905 ; also off the Gimlet Rock, Pwllheli, 27th September, 1905. In the Liverpool Marine Biological Committee's list, *S. aurantiaca* is also recorded, but this is only a synonym of *S. lascaris*.

81.—SOLENETTE. *Solea lutea* (Risso).

Fairly common.

Mr. Gosling has obtained specimens of this small species at Aberffraw, and Mr. Andrew Scott says it is taken off the North Wales coast. In the Menai Straits Professor White reports it as common. Dr. J. Travis Jenkins has taken several in the neighbourhood of Portmadoc, Barmouth, and Puffin Island, and down to a depth of ten fathoms.

82.—THICKBACK. *Solea variegata* (Donov.).

Occurs in the Dee Estuary, and elsewhere.

This species has been reported from the mouth of the Dee by Messrs. Herdman and Dawson, who add that it is taken also in various parts of the Irish Sea.

83.—SHORT SUN-FISH. *Orthogoriscus mola* (Linn.).

Rare.

This large but sluggish fish is met with only very occasionally in these waters. Off Aberffraw Mr. Gosling has seen it, but never managed to take one. An example was caught near Holyhead in the autumn of 1901,* and there is a stuffed specimen at Vaynol Park, taken in the Irish Sea many years ago. A specimen preserved in the Corsygedol Hotel, Barmouth, was obtained near there about 1870. Mr. H. Thomas remembers one taken off Llandudno early in the eighties: it had been injured, apparently by the paddle of a steamer, and was exhibited in a tent to visitors.

84.—ATHERINE, or SAND-SMELT. *Atherina presbyter* Jen.

Common at times.

This fish is not mentioned by Eyton or in the Liverpool Marine Biological Committee's list, but Mr. Gosling states that he has found it at the mouth of the river at Aberffraw in autumn, and Professor White reports it as common in the Menai Straits at times. Dr. J. Travis Jenkins has found it common about Pwllheli, and took several small specimens

* R. J. Edwards and Professor White.

(two inches) in the trawl at ten fathoms depth near Portmadoc, August 30th, 1905. The omission of this fish from modern lists is the more remarkable since Pennant in his *Tour* explicitly states* that the Atherine is taken near Pwllheli. I have received small specimens taken in the Dovey Estuary by Dr. S. Jackson, who adds that occasionally the Atherine appears there in large numbers.

85.—THIN-LIPPED GREY MULLET. *Mugil capito* Cuv.

HYRDDYN = Mullet.

Common at times.

The Grey Mullet has been recorded in North Wales by Eyton, but it is uncertain whether *M. capito* or *M. chelo* was meant. Mr. A. O. Walker states that this species is still taken at the mouth of the Conway, but is getting scarce. John Williams in 1830 mentions it as occurring in the River Conway. It is commonly caught in the trawl or net off Criccieth, and Mr. Gosling reports it in Anglesey as "common, especially in pools near the mouth of the Crigyll River at Rhosneigr." In September, 1904, I found the fry, about one-and-a-half inches long, very numerous in brackish creeks on the Barmouth Estuary, near Arthog. Dr. Lister says the species is of common occurrence in that district. Mr. Martineau reports it as frequently taken in nets to the west of Nevin—often very fine fish. Several about ten pounds weight were taken in Gored Goch (weir), Menai Bridge, 22nd October, 1897. Mr. H. Thomas says it is rarely met with in the Llandudno district.

* Ed. 1810 II., 387.

86.—LESSER OR THICK-LIPPED GREY MULLET.

Mugil chelo Cuv.

MINGEWN = Round-mouthed Mullet.

Fairly common.

Mr. Gosling says that this species occurs "at Aberffraw, and is plentiful in Malldraeth Estuary, near Bodorgan House, and higher up at Yard, etc." Mr. Andrew Scott has seen a specimen from the weir off Bangor, at University College, Liverpool. Professor White also records it in the Menai Straits, where he says it is fairly common, whilst Messrs. Herdman and Dawson add that it is "taken sometimes in the estuary of the River Dovey; between June and September large numbers come into the sea-lake at Cemlyn, on the north of Anglesey." Dr. Jackson reports also that large numbers occur in the Dovey Estuary, and the fish are constantly about the Aberdovey pier in warm weather. They are sometimes speared, but are rarely taken with a line. When a net is used to enclose a shoal they nearly all escape by jumping over the top.

87.—SAND-LAUNCE. *Ammodytes lanceolatus* Lesauv.

LLYMRIEN = Worm.

Common on sandy coasts.

The Sand-Launce is fairly common on sandy coasts, in the estuary of the Dee, and on the Menai Straits. In September, 1893, Mr. A. H. Martineau caught one fourteen inches long on a white fly whilst casting for Mackerel at Porth Dinlleyn. This species is larger than the next, from which it is further distinguished by the rigid premaxilla and the vomerine teeth—characters lacking in *A. tobianus*.

88.—SAND-EEL. *Ammodytes tobianus* Linn.

PYSGOD BYCHAIN = Little Fish ; LLYMRIEN = Worm.

Very common on sandy coasts.

Very common in sandy places and sometimes occurs in large shoals at sea. It is used extensively as bait, for which purpose it is dug out of the sand where it buries itself on the receding of the tide. Mr. G. E. Bullen has taken examples which measured fully ten inches, but the average length is only about six inches.

89.—GARFISH. *Belone vulgaris* Flem.

CARRAI FÔR = Sea-Lace ; MÔR NODWYDD = Sea-Needle ; CORNBIG = Horn-beak.

Common at times.

Mr. A. O. Walker reports this fish as frequently taken in Rhos Weir, Colwyn Bay, and Mr. W. E. Edwards says it is also caught in nets off Criccieth. Mr. Gosling often took it at Aberffraw, and sometimes in numbers, whilst Professor White found it "common at certain seasons in the Menai Straits." Dr. Lister says it is common at Barmouth, and Dr. Jackson adds that it is often hooked by mackerel "whiffers." In the Dovey Estuary Garfish have been netted up to one-and-a-half pounds weight: they make a deadly bait for Bass. Mr. G. E. Bullen remarks: "In the English Channel, off Plymouth, the Garfish is generally taken by mackerel-liners in fair numbers in the early spring, before the drift season has properly commenced. After the appearance of the mackerel shoals, comparatively few are taken in the drift nets." Local names for this species are "Greenbone" and "Sea-Needle."

90.—SKIPPER. *Scombresox saurus* Flem.

Sometimes common off south-west Anglesey.

Neither Eyton nor the Liverpool Marine Biological Committee mention this fish in North Wales, but Mr. Gosling assures me that "it is sometimes plentiful in summer at Aberffraw, Anglesey."

91.—COMMON OR THREE-SPINED STICKLEBACK.

Gasterosteus aculeatus Linn.

*SIL Y DOM = Little Mudfish; PYSGOD Y GATH = Cat's fish.

Common in lowlands throughout the district in suitable waters.

This is the common Stickleback of our ponds and ditches. Inland the smooth form known as *G. leiurus* is the usual variety. Although generally regarded as a freshwater fish, this Stickleback is met with in the sea also, for Professor White records it at Gored Goch (weir) in the Menai Straits, 24th November, 1897,† whilst Mr. G. E. Bullen has frequently taken this and the next species in the shrimp-trawl off the mouths of rivers.

ANGLESEY. Common round Menai Bridge (Humphreys), Aberffraw (Forrest), in Crigyll River (Long), Holyhead and Llyn Maelog (Edwards); many places in west (Marshall), Llandegfan (Rowland). In Menai Straits (White).

CARNARVON. Common Carnarvon (Wynne Williams), Bangor (Lort and Lester Smith), Deganwy district (Forrest), Beddgelert (Evan B. Jones). Occurs Nanhoron (Lloyd Edwards).

DENBIGH AND FLINT. Common Downing (Fielding), Mold (Cooke), St. Asaph (Watts), Colwyn Bay (Russell).

MERIONETH. Common Towyn (Kirkby), Dolgelley (Bailey), Barmouth (Forrest and Rawlings), Ffestiniog (Morris); absent Dinas Mawddwy (Buckley),

MONTGOMERY. Common Llansantffraid (Kempster), Guilsfield (Beck and Mytton), Llanerfyl (Harington), Garthmyl (Fort and Johnes), Carno (Davies).

* This name is also applied in some districts to the Minnow.

† Report of Puffin Island Committee, 1897, 33.

92.—TEN-SPINED STICKLEBACK. *Gasterosteus
pungitius* Linn.

PİGOGBYSG = Prickly Fish.

Common in parts of Denbigh, Flint, and Anglesey; not known to occur in the other three counties.

This little fish is easily overlooked unless specially sought for, and it is possible that the scanty records below do not really represent its status in North Wales. It appears especially to affect brackish ditches, and Dr. Russell has found that it will endure transference from fresh to salt-water or *vice versa* with indifference. Although called the Ten-spined Stickleback it generally has but nine spines.

ANGLESEY. Plentiful near Holyhead (Edwards).

CARNARVON. Not recorded.

DENBIGH AND FLINT. Abundant in brackish water at Rhyd near Rhyl, and near Rhos, Colwyn Bay (Russell); occurs near Mold (Cooke), Rossett (Venables).

MERIONETH. Not recorded.

MONTGOMERY. Not recorded.

93.—FIFTEEN-SPINED STICKLEBACK. *Gasterosteus
spinachia* Linn.

SİLOD Y MOR = Sea-Fry.

Common in weedy rock-pools and shallow parts of the sea.

This is a salt-water species, and is generally distributed round the coast wherever there are extensive beds of sea-weeds; amongst these it harbours and builds its nest after the same manner as the common freshwater Stickleback. Donovan records the fry as obtained on the Anglesey coast, whilst it

is reported from Aberffraw by Mr. Gosling, Colwyn Bay by Dr. Russell, and as common in the Menai Straits by Professor White. Examples taken there have been sent to me by Mr. L. F. Lort.

94.—BROAD-NOSED PIPE-FISH. *Siphonostoma typhle* (Linn.).

Met with occasionally off Anglesey and Aberdovey.

Eyton mentions having taken this fish once at Holyhead, and Mr. Gosling reports it as not uncommon at Aberffraw, whilst I have received specimens taken in the Menai Straits by Mr. L. F. Lort and in the Dovey Estuary by Mr. W. H. Paull. This appears to be the rarest of the Pipe-fishes in North Wales.

95.—GREAT PIPE-FISH. *Syngnathus acus* Linn.

PIBELLBYSG HIR = Long Pipe-fish.

The most numerous of the Pipe-fishes; generally distributed round the coast.

This, the largest of the Pipe-fishes, is common all round the coast wherever the bottom is weedy. It has been recorded from the Dee Estuary by Byerley, and Mr. A. O. Walker has taken it there as well as at Colwyn Bay. Specimens from the Dee are in the Chester Museum. Professor White has obtained it in the Menai Straits, whilst at Aberffraw Mr. Gosling found it rather common. It was taken in quantities at Abersoch on 11th September, 1893, by Mr. A. H. Martineau, and Dr. Lister has met with it occasionally at Barmouth. The green colour of the body matches very closely the larger *Fuci* amongst which it dwells. An interesting feature in the economy of the genus is that the

eggs are nursed by the *male* in a double pouch formed by folds of skin on the belly. Mr. G. E. Bullen states that this species appears to arrive at sexual maturity at an early age; he has male examples in his collection scarcely exceeding five-and-a-half inches, yet with the pouch developed and carrying *ova* or *larvæ*.

96.—SNAKE PIPE-FISH. *Nerophis aequoreus* (Linn.).

PIBELBYSG BYR = Short Pipe-fish.

Not uncommon round Anglesey; occurs in the Dee Estuary.

Byerley records this species from the Dee Estuary; Eyton took it several times off Holyhead, and at Aberffraw Mr. Gosling found it rather common; Professor White has met with it occasionally in the Menai Straits, and an example sent to me thence by Mr. Lort in August, 1903, is now in Bangor University Museum. It was a male and was nursing a mass of eggs: in this species they are adherent to the belly like a plaster—not enclosed in a pouch. The general colour of the body was red—not green; this suggested the idea that it probably haunted the red *algæ*, not *Fuci*. The colour varies in different examples, but there is always a distinctive reddish streak situated on each side of the head.

97.—STRAIGHT-NOSED PIPE-FISH. *Nerophis ophidion* (Linn.).

Recorded only off the west of Anglesey.

Eyton mentions having taken this fish several times off Holyhead, and Mr. Gosling reports it as not uncommon at Aberffraw, yet it does not appear to have been met with in the Menai Straits nor anywhere else in North Wales. It may readily be distinguished from the preceding species by the presence of stripes on the opercles.

98.—WORM PIPE-FISH. *Nerophis lumbriciformis*
(Willoughby).

*MOR NEIDR = Sea-Adder.

Common in rock-pools.

Eyton describes this species as common at Holyhead, and Mr. Gosling found it very common at Aberffraw. In the Menai Straits, however, Professor White has only occasionally met with it. One was taken in Gored Goch (weir), Menai Bridge, 28th March, 1897. It may often be found under stones uncovered by low spring-tides. Mr. G. E. Bullen writes: "This species would appear to be a purely littoral form. I have never once met with it in the shrimp-trawl off estuaries although it was known to be common on the adjacent shore under stones left uncovered by the tide."

99.—SEA-HORSE. *Hippocampus antiquorum* Leach.

Rare; reported only at Barmouth.

Dr. J. H. Lister tells me that he has met with the Sea-Horse at Barmouth in recent years. Messrs. Herdman and Dawson record it on the opposite Irish coast, but not in Wales.

* Probably applied to all the smaller Pipe-fishes.

100.—PIKE. *Esox lucius* Linn.

PENHWYAD = Duck-head (in allusion to the mouth, shaped like a duck's bill) ; BLAIDD Y DWR = Water-Wolf.

Not indigenous ; rare in the west, common in some parts of the east.

Eyton was probably correct in saying that the Pike is not indigenous, though it has been present in the Severn and in many lowland pools in the eastern counties for very many years. John Williams recorded it at Llanrwst as long ago as 1830, though one caught in the Elwy, at St. Asaph, recently, is said to have been the first known in that district. Pike were unknown until introduced to the counties of Carnarvon and Anglesey, where as yet they are found only in certain pools. The rivers of Carnarvon and Merioneth are too rapid and bare of weeds to suit the Pike's habits, for it loves to lurk amongst the water-weeds, whence it can dart out on its unsuspecting prey. G. J. Bennett in his *Guide through North Wales*, published in 1853, says (p. 53) that Sir Watkin Wynn, by putting Pike into Bala Lake, destroyed the Trout and Gwyniad with which it abounded, but this is incorrect, for it was known there even in Pennant's day.

ANGLESEY. Pen Parc pool, introduced (Humphreys) ; in two lakes south Anglesey (Rowland).

CARNARVON. Vaynol, very common (Lort). In 1901, a Pike over three feet long was caught in a pond under Penmaenbach (Kneeshaw).

DENBIGH AND FLINT. In Llyn Helyg (Fielding and Wrigley). Scarce Ruthin (Steer), St. Asaph (Rogers), and in River Elwy, but increasing ; introduced in ponds Colwyn Bay (Russell). Found in River Dee and other waters near Wrexham (Kyrke) and Rossett (Benden). Common Wrexham (Fitzhugh), Llan-silin district (Lees). Increasing Llangollen (Owen and Ruddy). One caught a few years ago in River Clwyd, and has been seen in the Elwy (Watts). Spawn probably brought there by birds (Wrigley).

MERIONETH. Common in Dee and Bala Lake (Gallichan, Ruddy and Wrigley). Introduced on Mr. Oakley's property near Ffestiniog (Evan B. Jones). Grows to twenty pounds in Bala Lake (Gallichan), twenty-five pounds (Pennant, *Tour*, 1810 Ed. II., 213).

MONTGOMERY. Common in Severn, Welshpool district (Bruce, Naylor), one thirteen and a half pounds caught January, 1901 (Butterfield); Llansantffraid, greatly increased recent years (Kempster). Plentiful Guilsfield (Beck, Mytton), Forden (Vize), Newtown (Williams), Montgomery (Brown), and in one lake Llanerfyl (Harington). Few Carno (Davies). Getting scarce in Upper Severn through pollution from Van Mine (Fort). A few in Rhiw, Camlad, and Severn, and formerly in canal about Garthmyl (Johnes). In Severn, Llanidloes (Pennant, *Tour*, 1810 Ed. III., 97).

101.—PEARLSIDES. *Maurolicus borealis* (Nilss.).

Obtained once off Flintshire.

A deep-water species very rarely obtained in this country. Pennant mentions an example taken near his house at Downing, Flintshire, in 1769. It was erroneously described by him as the Argentine (*Argentina sphyraena*).

102.—CARP. *Cyprinus carpio* Linn.

CARP = Carp; LLYNBYSG = Lake-fish.

Common in the eastern counties; unknown in the west.

The Carp is not an indigenous fish (it came to England in the fifteenth century); but there appears to be no evidence as to the date when it was introduced into North Wales. Tradition has it that it was brought into Montgomeryshire by the monks, which, indeed, is not improbable. At the present day it is found in many parts of the lowlands, as well as at a moderate elevation amongst the hills; but it is

apparently confined to the eastern counties. Mr. C. H. B. Williams, of Bodelwyddan, states that Lord Mostyn once caught a huge Carp in Llyn Helyg, which weighed twenty-four pounds! Pennant states in his *Tour* (1810 Ed. III., 221) that it occurs in the Vyrnwy—very unsuitable water, one would think. Mr. A. George has never met with it in that river; but Mr. W. E. Edwards informs me that in 1901 an example weighing ten pounds was taken just at the junction of the Vyrnwy with the Severn.

ANGLESEY.

CARNARVON.

MERIONETH.

} Not known to occur.

DENBIGH AND FLINT. Plentiful in ponds at Coed Coch (Russell); Llanrwst, "has been found in the river" (*Faunula Grustensis*, 1830). Very large and old in Rûg Lake, Corwen (Wynn). Occurs in ponds Llansilin district (Lœs), Rossett (Venables), Llangollen (Owen), Llyn Helyg (Wrigley). Abundant in Llyn Bryn Eithin, Mostyn (Lester Smith). Occurs in Mold district (Cooke).

MONTGOMERY. Common in pools about Welshpool (Bruce and Naylor); occurs Guilsfield (Beck and Mytton), Forden (Vize), and in one lake near Llanerfyl (Harington). Common round Montgomery (Brown). In Llyn Gynyddig, near Llanerfyl caught one nine and a half pounds with a rake; believed to have been introduced long ago by monks. Some very large ones in Llyn Bugail above Cann Office, where tradition also ascribes their introduction to the monks; the water in this lake is clear; all others there are peaty (Lort). River Vyrnwy, see above.

103.—GUDGEON. *Gobio fluviatilis* Flem.

CROTHELL = Gudgeon (literally "Little Womb"); LLYFROTHEN = Gudgeon.

Common in the Dee and Severn, and in some tributaries.

Like other fish with barbels pendant from the jaws, the Gudgeon lives and feeds at the bottom of the water. It is

unknown in the west, whilst in the east it is confined to the Rivers Dee and Severn, with their tributaries the Alyn, Vyrnwy, Tanat, etc.

ANGLESEY. }
CARNARVON. } Unknown.

DENBIGH AND FLINT. In Dee and Alyn (Benden and Kyrke). Not common, Mold (Cooke); fairly common Llansilin district (Lees); in Rûg Lake (Wynn); common Llangollen (Ruddy).

MERIONETH. Common in Upper Dee (Gallichan and Ruddy) near Bala (J. W. Roberts).

MONTGOMERY. Common in Severn about Welshpool (Bruce and Butterfield), and at confluence of Camlad and Severn (Vize). Numbers in Vyrnwy, Llansantffraid district (Kempster), and Meifod (Beck and Mytton). Found in the Camlad in fair numbers; formerly common in Severn but none seen for last twenty years (Johnes). In Vyrnwy (Pennant, *Tour*, 1810 Ed. III., 221).

104.—ROACH. *Leuciscus rutilus* (Linn.).

RHUFELL = *Rutilus* (?).

Common in pools and rivers in the east; rare in the west, and probably not indigenous there.

The Roach is found in both pools and rivers, but chiefly in quiet reaches of the latter. It is generally distributed throughout the eastern half of North Wales, but in Anglesey and the west it occurs only in a few isolated localities: in some parts of these it is known to have been introduced, whilst in the others it is a doubtful native.

ANGLESEY. Gwalchmai Lake, introduced (Humphreys). In at least one lake near Holyhead (Edwards).

CARNARVON. Very common Vaynol Park, Bangor (Lort). Plenty in pond on side of hill about one mile from Nanhoron (Lloyd Edwards). In a pond Deganwy (Gardner).

DENBIGH AND FLINT. Common Downing (Fielding); in ponds, St. Asaph (Rogers and Wrigley), Rhuddlan and Dyserth

(Lester Smith), Rossett (Benden), Alyn and Dee (Cooke and Kyrke), Rûg Lake (Wynn), Llangollen (Owen and Ruddy), Llewesog Lake near Denbigh (Watts), Llansilin district (Lees), Ellesmere district (Tower).

MERIONETH. Occurs in pools and backwaters of the Dee about Llandderfel (Gallichan and Ruddy), and in Bala Lake (Wm. Owen, Gallichan, and J. W. Roberts). A few there (Pennant, *Tour*, 1810 Ed. II., 213).

MONTGOMERY. Common Leighton (Naylor), Welshpool (Butterfield), Forden (Vize), Montgomery (Brown), Guilsfield (Beck and Mytton), Garthmyl (Fort and Jones), Vyrnwy, Cain and Tanat (Kempster). Scarce Newtown (Williams), Vyrnwy (Pennant, *Tour*, 1810 Ed. III., 221.)

105.—RUDD. *Leuciscus erythrophthalmus* (Linn.).

RHUDDGOCH = Crimson-red.

Extremely local: occurs in certain pools in Denbigh, Flint, and Carnarvonshire.

The Rudd so closely resembles the Roach that it is usually confounded with that species. Although its name implies a ruddier colour, particularly of the eye, the only reliable distinctions are structural: the most conspicuous is to be found in the relative position of the dorsal and ventral fins. In the Roach these are nearly one over the other, but in the Rudd the dorsal fin begins further back, exactly above the space between the latter and the anal. Mr. Brownlow Tower says that the Rudd is found in several of the meres round Ellesmere, but whether in any of those situated in Flintshire is uncertain. Mr. Wrigley reports it as occurring at Major Wynne Eyton's, the Tower, Mold, and in ponds used for watering cattle at Bryn Polyn, St. Asaph. Mr. L. F. Lort tells me that it was introduced into ponds in Vaynol Park, but he thinks that it has died out there. The most curious and unexpected locality for this fish, however, is in Lley, Carnarvonshire; curious because none of the ordinary

coarse fish are indigenous in that county. Mr. S. G. Cummings informs me that in July, 1904, Dr. Cyril Dobie (Chester) caught a Rudd at Abersoch. It was taken in a sluggish weed-filled stream of a character suited to its habits, and some fourteen years previously another Rudd was caught in the same place by Dr. W. H. Dobie. Mr. W. M. Gallichan, in his book on *Fishing in Wales*, mentions Roach as having been taken in the River Soch, near Llangian; he tells me, however, that this was incorrect—the fish were actually Rudd. He adds that “the natives, being unacquainted with coarse fish, mistake these for rock-fish that have come up with the tide.” Although the fact is rather irrelevant it is worthy of mention that in Ireland there are no Roach—only Rudd. Mr. G. A. Hutchinson has found Rudd in a tarn at Pont-y-bryn, near Eglwysbach, which place, although in Denbigh, is close to the border of Carnarvonshire. Whether the species is indigenous in North Wales is difficult to determine, but as in most of the localities mentioned above (including Abersoch) it is not known to have been introduced, the probabilities seem to be in favour of its being a native.

106.—DACE. *Leuciscus dobula* (Linn.).

DARSEN = Dace; GOLEUBYSG = Light-coloured Fish.

Common in streams, but only in the eastern counties.

Eyton states that the Dace is not indigenous in North Wales. In this, however, he is almost certainly mistaken, since it has always been a common fish in the Severn and Dee, with their tributaries. In the west, where the streams are too turbulent, and in Anglesey, where there are no rivers of any consequence, the Dace is quite unknown.

ANGLESEY. }
 CARNARVON. } Not known to occur.

DENBIGH AND FLINT. Plentiful in canal at Llangollen (Ruddy), in Rivers Alyn and Dee (Cooke, Kyrke and Wrigley), Llansilin district (Lees), Rossett (Benden), Wrexham (Fitzhugh). In Vicarage Pool, Whitford—a stream runs through it (Lester Smith). Plentiful in Dee below Llangollen but not common above Berwyn (Gallichan). Used to be plentiful in pool at Llewesog, near Denbigh (Watts).

MERIONETH. Plentiful in the Dee about Corwen, etc. (*Field*, 14th November, 1903, p. 824), but not many near Bala (Buckley and J. W. Roberts).

MONTGOMERY. Common in Severn and some tributaries (Forrest), Welshpool (Naylor), Pool Quay (Hayward), Guilsfield (Beck), River Vyrnwy (Kempster), Tanat and Cain (Fort) Camlad (Vize). Plentiful in streams Montgomery (Brown), Newtown (Williams); few Carno (Davies). Common in Camlad, Rhiw, and Severn (Johnes), Vyrnwy and Tanat (Pennant, *Tour*, 1810 Ed. III., 221.)

107.—CHUB. *Leuciscus cephalus* (Linn.).

PENCI = Dog-Head; COCHGANGEN = Red-fin; CANNOG = Whitish (?).

Common in streams in Montgomeryshire; also in the Lower Dee and tributaries.

The same remarks apply to this as to the last species, but its range is rather more restricted. Day describes it as occurring in "the Severn and most Welsh rivers," but this statement is too general. It is unknown in the west, and appears to be confined to the lowlands in the eastern counties. Although found in the Lower Dee, it seems not to penetrate to the upper waters in Merioneth. In the places where it does occur it is generally numerous, but, on account of the insipidity of its flesh, it is little sought after by anglers.

ANGLESEY. }
 CAERNARVON. } Not known to occur.

DENBIGH AND FLINT. In streams Mold (Cooke and Wrigley), Rossett (Venables), and Llansilin district (Lees). In Dee below Corwen (Wrigley).

MERIONETH. Not in Dee above Corwen (Buckley).

MONTGOMERY. Common Welshpool (Butterfield and Naylor), Forden (Vize), Montgomery (Brown), Newtown (Williams). Plentiful in Vyrnwy and Tanat (Kempster), Severn and Cain (Fort). Occurs Guilsfield (Beck and Mytton), Carno (Davies), and Llanerfyl (Harington). Common in Camlad, Rhiw, and Severn (Johnes), in Vyrnwy and Tanat (Pennant, *Tour*, 1810 Ed. III., 221.)

108.—MINNOW.—*Leuciscus phoxinus* (Linn.).

CROTHELL Y DOM = Gudgeon of the Mire; SIL Y DOM (in Lleyrn) = Spawn of the Mire; BYCHAN BYSG = Little Fish; PILCODYN = Minnow.

Common and generally distributed, except in Anglesey.

Unlike the other members of the genus the Minnow is by no means confined to lowland streams, nor to the eastern counties of North Wales—for it is common in many parts of Carnarvonshire, whilst in certain mountain lakes it attains a large size. The largest and most gorgeously-coloured Minnows I ever saw were in Llyn Arennig, at an elevation of nearly 2000 feet. This was in May, 1902, at which time they were spawning, and so crowded together in the rivulets running into the lake that I scooped numbers out with my hands. Many of the females measured over four inches long. In June, 1900, too, I saw countless thousands at the edge of Tal-y-llyn Lake. Rev. C. Harington has noted very large ones in Llyn Gwynydd, near Llanerfyl. The spawn is of a bright golden-orange colour.

ANGLESEY. Not known to occur.

CARNARVON. Plentiful Nanhoron (Lloyd Edwards), Carnarvon (Wynn Williams), Llyn Quellyn and Capel Curig (H. G.

White), Bangor (Lester Smith), in the Lledr (Bucknill), Llanberis lakes and river (Brinckman and Lort), in clear brooks, Conway (Moore), Lakes Ogwen, Idwal, and Mymbyr (Gardner).

DENBIGH AND FLINT. Common (all observers).

MERIONETH. Common (all observers).

MONTGOMERY. Common (all observers.)

109.—TENCH. *Tinca vulgaris* Cuv.

GWRACHEN = Dwarf, or Witch.

Fairly common in many ponds in the eastern counties; not indigenous in the west, but introduced Carnarvon and Anglesey.

The Tench is found mainly in stagnant pools. It is fairly common in many parts of Denbigh, Flint, and Montgomery, but only in the lowlands. It is very possibly a native of these parts, but in the west it is unknown except where introduced.

ANGLESEY. In pool near Valley, introduced (R. D. Williams).

CARNARVON. Vaynol Park, introduced, now very plentiful (Lort).

DENBIGH AND FLINT. About Mostyn, not common (Lester Smith). In ponds, Mold (Cooke). In many marl-pits about Wrexham (Kyrke), Rossett (Benden), and ponds in Llansilin district (Lees). Common Llangollen (Owen). Plentiful in Llewesog lake near Denbigh (Watts). St. Asaph, pools on Plas-yn-cwm farm (Wrigley).

MERIONETH. Not known to occur.

MONTGOMERY. Said to occur Guilsfield (Beck); rare, Welshpool (Butterfield and F. Williams). Common Montgomery (Brown), and in a few of the ponds round Newtown (Hamer Jones). In River Vyrnwy (Pennant, *Tour*, 1810 Ed. III., 221), but Mr. A. George says he never met with it in the river, only in certain backwaters near Meifod.

110.—BREAM. *Abramis brama* (Linn.).

BREM = Bream.

Occurs only in pools along the English border.

Very few observers record the Bream in North Wales; Byerley records it in the Dee; possibly it occurs in other lowland pools, but the only places from which it is reported are Llynelys Pool, near Llanymynech (Lees), the neighbourhood of Welshpool (Butterfield), Rossett (Benden) and Llyn Helyg (Lester Smith). It is common in many of the meres round Ellesmere, some of which lie in Flintshire.

[The White Bream or Bream-flat (*A. blicca*) occurs in Shropshire and, according to Byerley, in the River Weaver, Lancashire, but it is apparently unknown in North Wales.]

111.—BLEAK. *Alburnus lucidus* Hech and Kner.

GORWYNIAD = Very-white.

Occurs in the Severn and Lower Dee.

This silvery-white fish appears to be little known in North Wales; it is common in certain parts of the Severn and Lower Dee; probably also in some of their tributaries. Pennant mentions it as occurring in the Vyrnwy (*Tour*, 1810 Ed. III., 221).

112.—LOACH. *Nemachilus barbatula* (Linn.).

CROTHELL YR AFON = River-Gudgeon; CRACHEN = Hag.

Common, but only in the eastern half of the district.

This little fish is found lurking under stones in streams of

all sizes. In the waters where it occurs it is generally numerous, but it appears to be restricted in its range to the eastern half of North Wales; it is not recorded further to the west than Bala, Merioneth; and the River Elwy in Denbighshire.

ANGLESEY. }
CAERNARVON. } Not known to occur.

DENBIGH AND FLINT. Common Downing (Fielding). In Elwy (Russell, Watts and Wrigley); about Mold (Cooke). Occurs Denbigh (Congreve), in River Dee (Byerley, *Fauna of Liverpool*), Llangollen (Ruddy).

MERIONETH. Very common Llandderfel (Ruddy), Bala (J. W. Roberts).

MONTGOMERY. Common, Welshpool (Butterfield), Leighton (Bruce and F. Williams), Guilsfield (Beck), Llanerfyl (Harington), Llanllugan (Lort), Carno (Davies). Numerous in River Vyrnwy, etc. (Kempster); rather scarce Garthmyl (Johnes), in Vrynwy and Tanat (Pennant, *Tour*, 1810 Ed. III., 221).

113.—SALMON. *Salmo salar* Linn.

GLEISIAD = Bluish; EOG = Salmon; MARAN = (Spawning Salmon); BRITHYLL Y GOG = Cuckoo-Trout (young in fourth stage); CEMYW = (Male Salmon); HWYFELL = (Female Salmon); BRITHYLL Y MÔR = Sea-Trout; BRITHYLL BRYCH, and BRITHYLL DU = Spotted Trout, Black Trout (young in third stage of growth).

Fairly common in the larger rivers and some lakes; least numerous in Anglesey and Montgomery.

This, the most important sporting fish of the country, is still fairly numerous in the principal rivers of North Wales, but in the Severn and tributaries it has become scarce of late years owing to netting in the lower reaches and obstructions in the channel higher up. In 1895 one weighing forty-nine pounds

was caught on 20th April, near Llandrinio, and another on 10th June, 1899, near the same place, of fifty pounds weight. The largest fish recorded was taken in the Dee, near Pickhill in 1779; it weighed fifty-two pounds.* Salmon are not infrequently netted in salt-water, especially in the Menai Straits and in the Estuary of the Dee. Anglers who wish to know the best fishing waters for Salmon and Trout in North Wales should refer to Mr. W. M. Gallichan's book, *Fishing in Wales*. Pennant writes in his *Tour* concerning Bala:—"Salmon come in plenty to this place, but neither trespass into the lake, nor the Gwyniads, except rarely, into the river." Further on he writes, concerning Llanidloes, where the "Severn dwindles into an inconsiderable stream, by wonderful instinct Salmon force their way from the ocean higher up even than this distant spot for the sake of depositing their spawn."

ANGLESEY. Ascend little rivers to spawn November and December (Edwards). Occasional River Ffraw and Llyn Coron (Gosling). Frequent in Menai Straits, June, July (Rowland); seen jumping near Menai Bridge, August (Forrest). Occasional on shore Rhosneigr (Long).

CARNARVON. More or less common in all the larger streams (many observers); also in certain lakes such as Dinas, Gwynant, Llanberis (Forrest), and Quellyn (H. G. White). During freshets salmon will push up the little stream which runs into the sea at Aberdaron, though at usual summer level it is very small (Aplin).

DENEIGH AND FLINT. More or less common in the Dee, Alyn, Ceirog, Clwyd, etc. (many observers); also in the sea, Colwyn Bay (Russell); Downing (Fielding).

MERIONETH. The Dovey is a noted Salmon river, whilst Salmon also occur in the rivers at Barmouth, Towyn, Llanbedr, Maentwrog, etc., and in the Upper Dee (many observers).

MONTGOMERY. Occurs in the Severn and tributaries, but is decreasing (all observers). Once caught a twelve-pound fish at Llanllugan (Lort); caught one in the Rhiw, 1886 (Johnes).

* *Bygones*, 1895, 79.

114.—COMMON TROUT. *Salmo fario* Linn.

BRITHYLL = Trout (from Brith = Spotted).

Common and generally distributed in all suitable waters, and even in apparently inaccessible mountain-tarns.

This is by far the most generally-distributed of the fresh-water fishes of North Wales, and occurs equally in streams and lakes of all sizes. As a rule the mountain streams are small and the Trout they contain are numerous but small—three or four to the pound. In some elevated mountain-tarns the Trout are so poorly fed that they dash at anything that falls on the water and can be caught easily without any bait on the hook; needless to add they are not worth the catching. In these deep, clear waters they are usually very dark-coloured. Mr. W. M. Gallichan records Brown Trout of five pounds weight in the Dovey and in Llyn-y-caws; a fish of the same weight, caught in the Dee, is preserved in the Royal Hotel at Llangollen; whilst in Bala Lake Trout are reported even up to eight pounds. Pennant mentions one of twenty-two pounds taken there,* but this was most likely a Sea-Trout†. He also states that in Llyn-y-cae there are three varieties of Trout—dark, silvery, and red-finned, and considers these last to be a distinct species.‡ Mr. J. L. Bucknill states that there are large Trout in Llyn Elsi, whilst in Llyn Crafnant Mr. Willoughby Gardner reports Trout of five, seven, and eight pounds taken in recent years. In Anglesey Trout are numerous in the brooks and in the lakes. In the upper and mid-Severn the Trout has lately become scarce, owing, in part at any rate, to the depredations of Pike. Pennant, in his *Tour*, writes: “Llyn Cwm Howel is

* *Tour*, 1810 Ed. II., 213.

† Many modern ichthyologists consider that *S. fario* is not a distinct species but merely a non-migratory form of *S. trutta*.

‡ Cf. Red-finned Trout, p. 497.

another lake in the (Corsygedol) neighbourhood noted for a race of Trouts (which I have seen) with most deformed heads, thick, flattened, and toad-shaped; and which, probably, might give rise to the fabled accounts of the monstrous species recorded by Giraldus" (*cf.* under Perch *ante*).

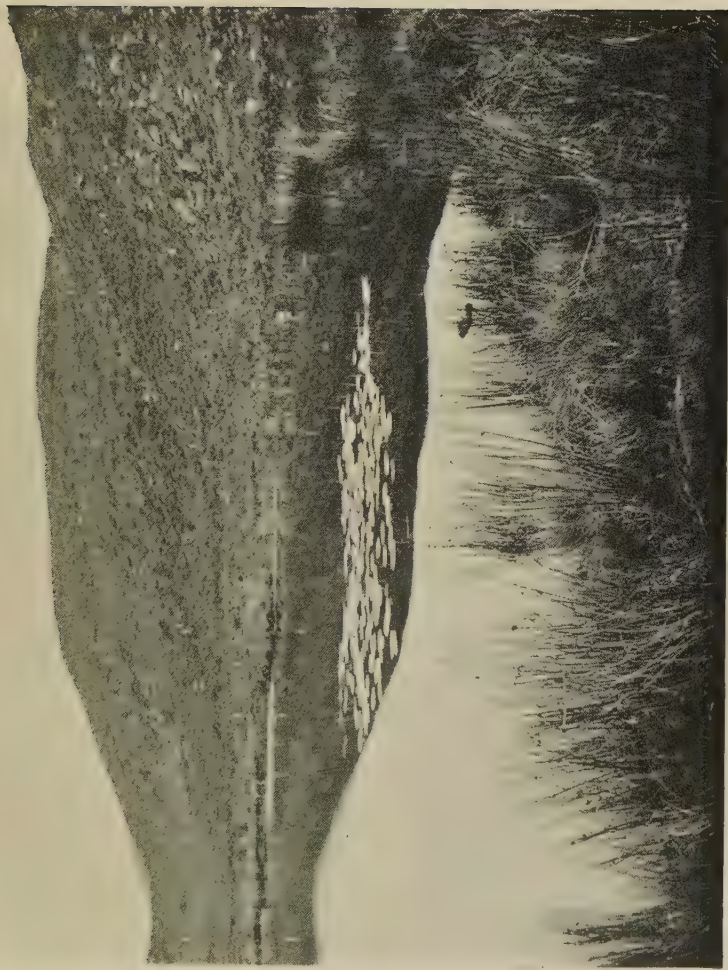
115 { SEA-TROUT, OR SALMON-TROUT, *Salmo trutta*
Linn.,
SEWEN, *Salmo cambricus* Donov.

BRITHYLL Y Môr = Sea-Trout.

Common in estuaries and rivers near the sea.

The Salmon-Trout which, as a sporting fish, ranks only second to the Salmon, is found in most of the larger rivers and estuaries, and ascends many miles inland to spawn when spates are on. At such times many streams which are ordinarily mere rivulets become transformed into rushing torrents, but quickly dwindle again to their former dimensions. I once caught with my hands a Sewen weighing two-and-three-quarter pounds in a tiny brooklet near Penygwryd, where there was barely sufficient water to cover the fish's back, so that when it dashed up stream in trying to escape it was half out of the water: it had evidently got up there in a flood and could not get down again. The Welsh form of Sea-Trout, commonly called Sewen, is by some writers considered a distinct species, *Salmo cambricus*. It is more spotted than the Salmon, and the flesh when cooked is of a redder hue. Since both the type-species and sub-species occur throughout the district, it has been found impracticable to separate the records: hence both are treated here together. Sea-Trout have been taken up to about twenty years ago in the Severn and Vyrnwy,* but none are known to have reached

* Forrest, *Fauna of Shropshire*, 240.



A TYPICAL WELSH TROUT-TAEN.

Photographed by T. J. DAVIES.

[To face page 496.]



Montgomeryshire in recent years. In the Dee they have been taken as high up as the foot of Bala Lake. They also occur in Llyn Ogwen and other lakes in easy communication with the sea.

ANGLESEY. In the rivers near Holyhead (Edwards), in Rivers Ffraw and Braint (Gosling), Cefni (Humphreys), Crigyll (Humphreys and Long), in Menai Straits (Rowland).

CARNARVON. Common Nanhoron (Lloyd Edwards). Carnarvon (Wynne Williams), in Lledr (Bucknill), Glaslyn (Fielding) Llyn Quellyn (H. G. White), about Bangor (Lort), in River Conway and tributaries (Moore).

DENBIGH AND FLINT. In Dee, Clwyd, etc. (Fielding). Fairly common Llangollen (Owen and Ruddy), Rossett (Benden), Ruthin (Watts and Radcliffe), St. Asaph (Wrigley). Denbigh, plentiful when a spate is on (Congreve). Common Colwyn Bay (Russell). Llanrwst (*Faunula Grustensis*, 1830).

MERIONETH. Common Mawddach and Wnion Rivers (Pugh), Dovey (Beck), about Dolgelley (Bailey), Aberdovey (Kershaw), Barmouth (Rawlings), Llanbedr, in all the larger streams communicating with the sea (Wayne), Penrhyndeudraeth (Priestley), Maentwrog (C. Morris).

MONTGOMERY. Not known to occur now, but formerly did so.

SUB-SPECIES.

1. GREAT LAKE TROUT. *Salmo ferox* Jardine.
2. BLACK-FINNED TROUT. *Salmo nigripinnis* Günther.
3. RED-FINNED TROUT. *Salmo rufipinnis* subsp. nov.
4. LOCH-LEVEN TROUT. *Salmo levenensis* Walker.
5. BLUE-POLL. *Salmo albus* Walb.

In the *Zoologist*, 1881, 225, Dr. Günther records *S. ferox* as occurring in Llanberis and the other larger lakes of North Wales, whilst *S. nigripinnis* is found in the mountain tarns. A form alluded to by Barrington in the *Transactions* of the Royal Society for 1774 as the "Hog-backed Trout of Plinlimmon" is considered by Dr. Günther as identical with his *S. nigripinnis*. He mentions it as being found in

Llyn Beguilin* and Llyn-y-Gader, Merioneth. Rev. W. Houghton states that he has caught Black-fins with the artificial fly in a river near Bala. The Red-finned Trout is described at length by Mr. Gallichan in his book, *Fishing in Wales*. It is numerous in Llyn-y-cae and certain other pools in the neighbourhood of Dolgelley, and is a handsome and sporting fish, characterised, as the name implies, by the red hue of its fins. Pennant also found this fish a century earlier in Llyn-y-cae, and he regarded it as a distinct species. It has not received any scientific name, so I have ventured to give it a title by converting its English name into Latin. The Loch-Leven Trout has been introduced to Lake Vyrnwy (Montgomery), Rivers Seiont and Conway (Carnarvon), Llyn Mynyddlod (Merioneth), and Dinam Lakes (Anglesey). On 17th June, 1904, a Loch-Leven Trout weighing nearly five pounds was taken in the River Tanat, while small ones, escaped from the lake, are sometimes caught in the River Vyrnwy. A "Blue-Poll" caught in Rhos Weir, Colwyn Bay, is described in the *Field*, September, 1879.

[RAINBOW-TROUT. *Salmo irideus* Gibbons.

An introduced (American) species.

This handsome Trout is of rapid growth, and flourishes better in pools than in streams. It has been introduced to Llyn Mynyddlod (Merioneth) and a few other lakes, as also into the River Conway.]

116.—WELSH CHAR. *Salmo alpinus* Linn.; subsp. *perisii* Günther.

TORGUCH = Red-belly.

Occurs in three lakes in Carnarvonshire and two in Merioneth; formerly also in Denbighshire.

Willoughby describes and figures the Torgoch in his

* ? Mwyngil.

Historia Piscium (published 1686),* from specimens met with during his tour in North Wales with his friend Ray, in 1662. He says that the species is found in the Lakes of Llanberis, Llyn UMBER (Llynau Mymbyr, Capel Curig), Festiniog (? near), and Bettus (? near), in Carnarvonshire, and in "Casageddor" (Cors-y-gedol), in Merionethshire. He describes them as being fished for at different seasons in the two counties, viz., in the months of November, December, and January in the first, and in the month of October in the second. He goes on to say that they swim in shoals during the summer, and that though they come to the surface it is impossible to take them there, either in nets or with bait. But at the proper seasons for fishing, as above, when the fish approach the shallower waters for breeding purposes, he was told that they were taken both with trammel-nets and with bait, though at night only.

Ray in his *Third Itinerary* under date May 26th, 1662, adds: "They tell some fabulous stories of these fish, as that three sons of the church brought them from Rome and put them into three lakes, to wit, Llanberis, Llyn UMBER and Travennin,† into each two. At Llanberis they say that they are taken only in the night, and that when it is not moon-shine."

Amongst a number of entries in an old sportsman's diary relating to part of Denbighshire south of Abergelle, is the following: "19 Jan., 1778. Turned four Char into the pool, given me by John Lloyd, Hafodunos."‡ At the present day I cannot learn that Char exist in any part of Denbighshire. Mr. John Fort states that a Char was caught in the Dee by his father many years ago; how it got there is a mystery, for there are no Char in Bala Lake. Day's statement§ that they occur there appears to be erroneous.

The species has long been known as inhabiting the lakes at Llanberis. It occurs principally in the upper lake (Llyn Peris, hence *perisii*). Mr. W. Brinckman, who lives close to

* Pp. 196-7 and Plate 7.

† ? Trywerin.

‡ *Bygones*, 1899, 95.

§ Day, *British and Irish Salmonidæ*, 1887, 246.

this water says: "I do not think these fish are well understood; their habits are very little known. About the second week in June they appear on the surface of the water in shoals, their back-fins just showing; on being approached by a boat, down they go with a splash only to reappear a few yards off. Some odd ones are caught with a fly, but the proper season is September and October, when they are caught in deep water with either maggot or worm; none are ever caught in spring. There are only certain parts of the lake where they occur, and the boats anchor over these close together; they take best in frosty weather. All are of a very even size (about four ounces) but a few weigh as much as six ounces."

The other lakes in which Char are found nowadays are Llyn Quellyn (Gallichan, Humphreys, Wynne Williams and H. G. White), Llyn Cwm-ffynnon, near the top of Llanberis Pass (Priestley), Llyn Bodlyn* or Corsygedol Lake (Attlee and Bailey), and a lake near Trawsfynydd where they are said to have been introduced by the Romans (Wayne).

Houghton says that the Welsh Char seldom exceed twelve or thirteen inches in length, though the Char of Windermere (a distinct subspecies) attain a much larger size. Day, quoting from an article in *Land and Water*, 27th December, 1879, says that at Llanberis the Char reside in the lower lake (Padarn) but that in November† they pass up the river which connects the two lakes into the lower end of the lake (Peris) in order to spawn; having accomplished this they return to the lower lake. He also states that the Char in Llyn Peris take the fly freely, though in this matter also he seems to have been misinformed. Mr. F. C. Rawlings says he has been *told* that there are Char in Llyn Ybi on the east side of the Rhinog range of mountains.

* Recorded here by Pennant in his *Tour*.

† This does not agree with Mr. Brinckman's account given above.

117.—GRAYLING. *Thymallus vexillifer* Agass.

PENLLWYD = Grey-head; GLASAN, GLASANNEN, and GLASGANGEN = Blue-fin.

Plentiful in the Upper Dee, and occurs in the Severn, Vyrnwy, Tanat, and Camlad.

The Grayling loves clear streams, where there is a strong gliding current, and rather avoids reaches where the water is broken. For this reason it appears to be very local, and will often be found only in certain parts of a river, whilst in the intermediate stretches it is absent or occurs only casually. This is particularly noticeable in the River Dee, where the Grayling is rarely found in the comparatively sluggish lower waters, being almost confined to certain reaches of the upper river, of which the Corwen district is most noted. For the same reason the Grayling is scarce in the slow-flowing Severn, though in many of the swifter tributaries, such as the Camlad, Vyrnwy, and Tanat, it is common. Eyton states that the species is not known to occur in North Wales, but it is certainly indigenous there. John Williams* mentions the Grayling as occurring at Llanrwst, but this is evidently a mistake, though curiously enough a Grayling weighing over one pound† was caught in the River Conway, 6th October, 1905. There is little doubt that this fish was accidentally introduced along with a number of Loch Leven and other trout that were turned into the river a year or two before.

ANGLESEY. }
CARNARVON. } Unknown.

DENBIGH AND FLINT. In many parts of the Dee, especially Corwen district (many observers).

MERIONETH. Common in the Upper Dee (Bailey, Ruddy, and others), below Bala Lake (Gallichan).

* *Faunula Grustensis*.

† *Field*, 14th October, 1905.

MONTGOMERY. Scarce in the Severn about Welshpool, but common in the Camlad (Butterfield, Bruce, Johnes, and Naylor). Occurs in Vyrnwy, Meifod district (Beck, Mytton). Increasing in Vyrnwy and Tanat (Lees). Greatly increased of late years about Llansantffraid (Kempster). In the Severn at Llanidloes (Pennant, *Tour*, 1810 Ed. III., 197) and in Vyrnwy (*Ibid.*, 221).

118.—GWYNIAD. *Coregonus clupeoides* Lacep.

*GWYNIAD = Whiting.

Found only in Bala Lake and a neighbouring pool into which it was introduced.

Bala Lake (Llyn Tegid) has long been noted as the home of the Gwyniad, and the fish is known familiarly by this purely Welsh title. It is also known as the "Fresh-water Herring," although it is a salmonoid fish and not even distantly related to the Herring. Still in the whiteness of its scales, and its habit of swimming in shoals, it certainly resembles that marine species superficially.

Pennant speaks in his *Tour* of great numbers of these fish being taken in spring and summer, but, although numerous in Bala Lake, the fish is difficult to procure, as it never takes a bait of any kind. Now and then a few are cast ashore when the water is much roughened by westerly gales, and are subsequently found half eaten by birds. Bala Lake belongs to Sir Watkin Wynn, and the only times when the Gwyniad is actually caught is when the owner nets the water. In size and shape the Gwyniad much resembles the Herring, but not in flavour for, truth to tell, it is very poor eating. A few years ago Mr. R. J. Lloyd Price of Rhiwlas, Bala, turned some of these fish into a pool called Llyn Creini, on his estate, and he found that they flourished there and attained a very large size. Pennant says that it has been taken up to five pounds weight in Bala Lake (*Tour* II., 218).

* This name is also sometimes applied to the Sea-Trout by the Welsh.

As Bala Lake is not the only habitat for this exclusively British species, it may be well to add that it occurs in Loch Lomond, and is recorded by Macpherson in his *Fauna of Lakeland* in Ullswater and Haweswater; he gives some interesting details as to its haunts and habits in the Lake district. Day gives as other habitats Conningham* Mere, Lancashire; Pemble Mere, near Chester; and Loch Lomond, Scotland. He adds that it has been known to stray as far down the Dee as Llandrillo. As there is no pool near Chester called Pemble Mere, Day is obviously in some confusion. "Pimble Mere" is another name for Bala Lake.

Willoughby describes the "Guiniad, the fish of Bala Lake" very fully in his *Historia Piscium* (pub. 1686), pp. 183-4. Of its habitat he says it is "found in the lake called Pimblemeer, close to the town of Bala, but never in the River Dee, which flows from the lake."

119.—SMELT, OR SPARLING. *Osmerus eperlanus* Linn.

BRWYNIAD = Rushy (*i.e.*, Smelling like Rushes—Brwyn).

Occurs in spring in many estuaries, especially that of the Conway River.

The Sparling, as it is generally called in Wales, enters many of the estuaries around our district about April, but the only river in which a regular fishery is carried on is the Conway. Eyton speaks of Sparling as being found in the Conway and Dee: Pennant remarks that they only stay in the first-named river for three weeks. Mr. A. O. Walker states that they are nearly extinct in the Dee, but "are taken in considerable numbers and comparatively large size between Llanrwst and Conway during March and April." The Smelt taken in the Conway are certainly larger than the average

* There is no lake called Conningham Mere, and the species is not found in Coniston Water, for which "Conningham" might have been a misprint.

Dutch specimens seen in fishmongers' shops. Their occurrence on other parts of the coast is too uncertain to admit of the establishment of a regular fishery. When newly-caught these fish have a peculiar smell which has been likened to that of rushes: hence the Welsh name from Brwyn, a Rush.

ANGLESEY. In Crigyll River: sometimes taken about May when running down to the sea at low water (Long).

CARNARVON. Netted in the River Conway at Talycafn in early summer (Gallichan, Lort, Moore, and others). Taken occasionally in Menai Straits near Ogwen Estuary (White).

DENBIGH AND FLINT. In the Dee Estuary (Fielding), Colwyn Bay and Conway Estuary (Watts), Llanrwst (*Faunula Grustensis*, 1830).

MERIONETH. Major White netted some, years ago, at the mouth of Dwyfor River between Criccieth and Pwllheli (Priestley). Sometimes at Towyn (Hughes and Edmunds), in Dovey Estuary (Feilden), and Barmouth Estuary sometimes as early as January; especially in a pool under Goesfaen (Lister). Some about Aberdovey Pier nearly all the summer; sometimes very plentiful and give exciting sport with a small hook and bait (Jackson).

MONTGOMERY. Unknown.

120.—ANCHOVY. *Engraulis encrasicolus* Linn.

Occasional on the north coast, but never in any numbers.

The first record of this little fish in North Wales is an ancient one, for Willoughby in his *Historia Piscium* (published 1686) records having seen at Chester (during his visit there in 1671) specimens taken "in the sea not far away from the town." He describes the fish fully on p. 225 of his work. Mr. A. O. Walker says it is frequently taken in Rhos Weir, Colwyn Bay. Mr. Andrew Scott has seen specimens taken on the north coast, whilst Professor White records that in the Menai Straits the Anchovy is taken now and then during the



ON THE OGWEN—Smelt ascend this River for Spawning.

Photographed by J. W. HEATH.]

[*To face page 504.*



year, but in no abundance. Thus at Gored Goch (weir) during 1897, three were taken March 28th, and one each day on May 21st, June 10th and 21st.* Dr. J. Travis Jenkins reports two taken at the mouth of the Dee, 17th September, 1904, and Byerley in his *Fauna of Liverpool* states that "fine specimens are taken occasionally in the Dee."

121.—HERRING. *Clupea harengus* Linn.

PENWAG, PENWEIG, PENNOG and PENWGYN = Empty-headed; YSGADENYN = Herring.

Very abundant at times on the west coast; less numerous on the north.

Off North Wales the visitations of the Herring are somewhat irregular but it is an abundant species generally in winter, sometimes also in summer. It is taken regularly in drift-nets at Nevin after mid-September (Martineau). The fact that "Whitebait" are the fry of the Herring and other members of the genus *Clupea* is now generally admitted. Day states† that "during the summer and autumn of 1874 several hundred small 'Whitebait' were imported to Manchester from Colwyn Bay, North Wales: during the first eighteen months of their captivity they grew to at least half the size of a full-grown Herring, with which species there was no denying their identity." On the evening of 29th September, 1904, Mr. L. F. Lort observed the Menai Straits swarming with "Whitebait"; there were many millions of them, and numbers of small Mackerel preying on them, these in turn pursued by Bass and other large fish. As far as the eye could see the water seemed to be boiling when the larger fish drove the small ones to the surface. Mr. Lort caught about five hundred by simply dipping a piece of muslin held between two

* *Puffin Island Report*, 1897.

† *British Fishes*, II., 219, and *Zoologist*, 1876, 4855.

sticks into the water, and could have caught any quantity in this way. Similar crowds of fish* visited the Dovey Estuary and the sea below the Little Orme's Head, where Mr. G. A. Hutchinson states that the Mackerel were so thick that the workmen at the quarry caught hundreds by merely wading in for a few yards and throwing them ashore with their hands. Whitebait are frequently taken in large numbers in the Gored Goch (weir), near Menai Bridge, as are also the adult Herrings, though not usually many at a time. The sea-fishery off North Wales has never been developed as it ought to be, the Welsh as a nation not being seafarers, but there is one branch which is carried on pretty regularly—surface-fishing for Herrings and Mackerel. The appearance of the shoals at sea is heralded and proclaimed by clouds of Gulls hovering above them, ever and anon plunging down to secure one of these beautiful fish—beautiful indeed they are when freshly taken from the water, the brilliant silvery scales glowing with wonderful iridescent hues, which quickly fade after death. The Herring dies very soon after it is drawn from the water; this is probably the origin of the proverbial expression, "Dead as a Herring." Pennant mentions† that Herrings used to ascend the Dee Estuary "even as high as Chester; they arrived in November and continued till February."

122.—SPRAT. *Clupea sprattus* Linn.

COEG BENNOG = Sham or Half Herring; CORBENWAG = Dwarf Herring.

Common at times.

The Sprat looks much like a small Herring, but may be

* In connection with this occurrence Dr. Jackson remarks: "It is interesting to note that the Aberdovey fishermen said at the time that it foretold a bad Herring season, and so it turned out. Why this should follow it is difficult to understand; perhaps the Herring's enemies multiply at the same time, and at a comparatively greater rate."

† *Tour in Wales*, 1810 Ed. I., 29.

distinguished by the saw-like keel of the belly. Eyton described it as common at Barmouth, and Dr. J. H. Lister confirms this at the present time. Professor White says it is common in the Menai Straits, whilst at Aberffraw Mr. E. Gosling frequently found Sprats in the stomachs of larger fish. Along the north coast Mr. Andrew Scott says it occurs in shoals occasionally.

123.—PILCHARD, or SARDINE. *Clupea pilchardus* Walb.

PENWAG MAIR = St. Mary's Herring.

Rare : has been taken at Barmouth and in Menai Straits.

This species is not mentioned by Eyton, nor is it included in the Fish-fauna of North Wales by Herdman and Dawson. I have, however, seen a specimen in Bangor University Museum which had just been caught in Gored Goch (weir), Menai Bridge, 10th June, 1905. Dr. J. H. Lister has also met with it occasionally off Barmouth; he adds that it used formerly to be sometimes taken in the herring-nets, but not since the mesh was enlarged. Pilchards taken in winter sometimes attain a length of ten inches: the small ones taken in summer are alone used for preserving in tins under the name of Sardines. Mr. G. E. Bullen remarks in regard to the sizes of Pilchards: "In the English Channel there are two distinct types of these fish to be met with. The summer Pilchards which are taken in such vast shoals off the Cornish coast are of an entirely different type to those which are taken at about Christmas, being of smaller size, the average length being $7\frac{1}{2}$ ins. to 8 ins., whereas the latter often attain an average of $9\frac{1}{2}$ ins. These, however, must not be confused with the so-called 'Shirmers,' spent fish which hover about the bays and inlets after the recession of the summer shoals—fish of emaciated appearance, generally measuring $9\frac{1}{2}$ ins. to 10 ins."

124.—ALLIS-SHAD. *Clupea alosa* Linn.

HERLYN = (A form of "Herring").

Taken occasionally in Menai Straits and on the west coast.

Both the Twaite and Allis-Shad, although belonging to the same genus as the marine Herring and Sprat, ascend fresh-water streams to spawn. A century ago Shad used regularly to ascend the Severn for this purpose* and continued to do so until the channel was closed to them by the construction of navigation-weirs in the neighbourhood of Worcester. Eyton writing in 1838 mentions the Allis-Shad as occurring in the Severn in summer, but he probably referred to the lower part of the river. The only positive evidence that Shad ever came up the Severn so high as Montgomeryshire is Pennant's statement† that it used to occur in the Vyrnwy—a river that could only be reached by the fish after travelling up the Severn. Mr. A. George adds that the late Mr. Kempster of Llansantffraid (Mont.) used to catch both Twaite and Allis-Shad with the net below his mill, before the construction of navigation-weirs. The Allis-Shad is larger than the Twaite and is less frequently met with. It has not been recorded in the Dee Estuary nor anywhere on the north coast to the east of Conway, but Mr. E. Gosling took several at different times on Mackerel-lines off Aberffraw, whilst a few have been taken from time to time in the weirs on the Menai Straits. Mr. A. B. Priestley remembers a large one being taken on a Mackerel-line on board a yacht near Criccieth. At Barmouth, where it is known to the local fishermen as the "King of the Herrings," Mr. Wilson Roberts reports it as met with now and then: the fishermen say that it leaps out of the water

* Forrest, *Fauna of Shropshire*, 231.

† *Tour*, 1810 Ed. III., 222.

and falls back flat on its side. Dr. Jackson has seen two taken at Aberdovey. Professor White has seen it in the Ogwen Estuary and records a large one taken in the River Conway at Tal-y-cafn about the end of May, 1902.

125.—TWAITE-SHAD. *Clupea finta* Cuv.

HERLYN = (see p. 508).

Taken occasionally in Menai Straits and on all coasts.

The Twaite used to ascend the Severn like the Allis-Shad but has long ceased to do so, though it still occurs below Worcester. Day speaks of the Twaite as being found "round the Welsh coast," and it is taken occasionally at Barmouth (Lister) and in the Dee Estuary (Walker). There are examples in Bangor University Museum from Menai Straits, and Mr. E. Gosling caught a few at Aberffraw on Mackerel-lines. Professor White reports that Twaite ascend the River Ogwen in May to spawn, but in the weir at Gored Goch they are only occasionally taken and never in any numbers.

126.—EEL. *Anguilla vulgaris* Turton.

*LLYSŴEN, or LLYSYWEN = Eel.

Common in pools and rivers, not only in lowlands but high amongst mountains; occurs also in salt-water in Menai Straits.

Observers in all parts of North Wales report the Eel as being common, not only in the lowlands but in mountain tarns at an elevation of quite 1000 feet. The young, known as "elvers," may often be seen ascending clear mountain-

* From Llys, slime.

streams in hundreds. The older ichthyologists were much puzzled as to the breeding of the Eel, for it was never found spawning in its freshwater habitats. They also made out two (if not three) species, which they described under the names of Broad-nosed and Sharp-nosed Eels. It is now known that the former is the male, the latter the female of the Common Eel, and that these fish never spawn in freshwater but go down into the deep sea to breed. It is believed that when this purpose is accomplished they die, as no *large* Eels are ever found *ascending* streams. The young of the Common Eel, a flat-sided transparent fish, was formerly considered a distinct species, *Leptocephalus brevirostris*. It is found in the sea and grows to about three inches in length, when it undergoes a metamorphosis, becoming round in the body and shortening to two inches. It grows to a length of several inches before it passes up streams in the familiar "elver" stage. Professor Schmidt in an admirable monograph has exhaustively detailed the development of the *Leptocephalus*.

In order to reach pools which are not otherwise accessible, the Eel travels across country at night when the ground is moist. It is believed to live in freshwater rivers and pools for at least five years before reaching maturity and returning to the sea. The male (broad-nosed) Eel is much smaller than the female, and rarely exceeds two pounds in weight, but the female grows to more than double the size. It seems that a good many Eels remain in salt-water for at any rate a great part of their lives, for in the Menai Straits, and especially in Gored Goch (weir), numbers are to be seen lurking amongst the stones, whence they emerge to capture such small fishes as chance to come within their reach.

127.—CONGER EEL. *Conger vulgaris* Cuv.

MÔR LYSWEN = Sea-Eel ; CYNGYREN = Conger.

Common ; especially in Menai Straits and on rocky parts of the coast.

The Conger is numerous round Anglesey and elsewhere, especially where the coast is rocky. Mr. E. Gosling frequently took them of great size off Aberffraw, whilst the author of Martin's *Wanderings in Wales* says that near Puffin Island very heavy ones are caught. Mr. Laisters F. Lort picked up a large dead one on the Menai Straits after a hard frost in December, 1903. He cannot account for it, but it is a fact that after hard weather Congers come ashore and die, and it is a common thing there for people to go and look for them at such times. The little fish described by Pennant as the Anglesey Morris (*Leptocephalus morrisii*) is the larva of the Conger ; it passes through the same metamorphosis as the Common Eel described above. In the Dovey Estuary Dr. Jackson says Conger Eels frequently reach 12 pounds in weight, whilst Mr. A. Conolly reports one taken off Llandudno in October, 1906, which scaled 19½ pounds. They are usually caught between the piles of the pier.

128.—STURGEON. *Acipenser sturio* Linn.

YSTWESION = Sturgeon.

Occasionally in the Dee and Conway Estuaries and elsewhere on the coast.

Records of the capture of the "Royal Fish" in North Welsh waters occur as far back as the early part of last century.

Thus, John Williams writes in 1830 that the Sturgeon "has been found high above the bridge" at Llanrwst, whilst in modern times a fish nine feet long and weighing 205 pounds was taken at Tal-y-cafn, on the same river, in July, 1902, another smaller one being washed ashore at Colwyn Bay.* Professor White reports that now and then one is taken in the Menai Straits, and Dr. J. H. Lister speaks of it as met with very rarely at Barmouth. One was caught in some salmon-nets at Tan-y-bwlch about 1880. In June, 1887, a Sturgeon $7\frac{1}{2}$ feet long and weighing $1\frac{1}{2}$ cwt. was caught by a Dee fisherman.† The following year two were taken; one 200 pounds weight in the Dee, the other 7 feet 4 inches long in Rhos weir, Colwyn Bay. Another 7 feet long was caught in the Dee in June, 1890, and sent to Queen Victoria.

129.—SMALL-SPOTTED DOG-FISH, OR ROUGH
HOUND. *Scyllium canicula* (Linn.).

MORGI LLEIAF = Lesser Sea-Dog; PENCI = Dog's Head;
MORGI GWYN = White Sea-Dog.

Common all along the coast.

This, the most abundant of the Shark-family, is common throughout the district. Its curious eggs, known as "mermaid's purses," are amongst the most familiar objects of the sea-shore, though when thus found they are almost invariably empty, the young having hatched out. Locally it is known as the "Fay-Dog."

* Russell.

† Bygones, 1887.

130.—LARGE SPOTTED DOG-FISH, NURSE-HOUND,
OR CAT-FISH. *Scyllium stellare* (Linn.).

CI YSGARMES = Fighting Dog; MORGI BRYCH = Spotted Sea-Dog; MORGI MAWR = Great Sea-Dog.

Rather rarely met with on the west coast.

This, a bigger species than the last, with larger and less numerous spots, is apparently much rarer. It has been recorded at Aberffraw, where Mr. Gosling met with it several times, and in Carnarvon Bay by Professor White, who has a fine example $3\frac{1}{2}$ feet long taken in 1901. This is the only one he has seen, but he thinks that trawlers may possibly take and not keep them. Dr. J. Travis Jenkins records another taken with the trawl in 10-fathom water $3\frac{1}{2}$ miles south-east of St. Tudwal's Islands on 24th May, 1905.

131.—BASKING SHARK. *Selache maxima* (Linn.).

HEULGI = Sun-Dog; MÔRFFLAID = Sea-Wolf.

Not very uncommon off the west coast.

According to Pennant this large Shark is frequent on the coasts of Anglesey and Carnarvon. The late Mr. E. Gosling told me that he had seen it occasionally on the south-west coast of Anglesey, and one immense specimen off Ynys-y-meibion. Eyton says it "occurs but rarely on the Welsh coast." Despite its great size—it is said to sometimes attain a length of thirty feet—the Basking Shark is perfectly harmless, its food consisting entirely of small fishes and invertebrates.

132.—PORBEAGLE OR BEAUMARIS SHARK. *Lamna cornubica* (Gmel.).

CORGI MÔR = Sea-Cur; MORGI MAWR = Large Sea-Dog.

Not uncommon round Anglesey.

Both Pennant and Eyton refer to this species as being met with on the coast of Anglesey. Mr. Gosling only once observed it in the Aberffraw district, but Professor White reports it as occasionally taken in the Menai Straits, and there is a very large specimen in Liverpool Museum that was taken in the district. The name "Beaumaris Shark" was bestowed by Pennant on a variety which he obtained off that place; he figures both the type and variety in a plate facing p. 424, Vol. III., of his *Tour in Wales*, 1810 Ed.

133.—THRESHER OR FOX-SHARK. *Alopias vulpes*, (Gmelin.)

MÔRLWYNOG OR LLWYNOG Y MÔR = Sea-Fox.

Occasional on the north coast and Menai Straits.

Mr. A. O. Walker records the Thresher as sometimes caught in the weir at Rhos, where one nine feet long, including the tail, was taken on July 16th, 1893.* A specimen in Bangor University Museum was taken in Menai Straits weir in the summer of 1905. This shark is easily recognized by the great length of the upper lobe of the tail.

* Herdman and Dawson.

134.—SMOOTH HOUND. *Mustelus lævis* Flem.

MORGI LLYFN = Smooth Sea-Dog.

Not very common.

At Aberffraw Mr. E. Gosling frequently took this species, yet Mr. A. Scott only met with it twice on the west coast, in Carnarvon Bay. Professor White records it as taken in the Menai Straits, and Mr. A. O. Walker at Colwyn Bay.

135.—TOPE. *Galeus vulgaris* Flem.

CI GLAS = Blue Dog.

Fairly common, especially round Anglesey.

The Tope, known locally as the Dog-fish, is frequent on the coast, especially off Anglesey. Pennant mentions one five feet long taken off the coast of Flintshire, whilst Buckland records another a little larger caught on a long line off Anglesey in July, 1879. In July, 1888, one was caught in a Salmon-net in the Dee and sent to Chester Museum. Mr. E. Gosling states that it is frequent off the west coast of Anglesey where it occasionally appears in numbers. Professor White has met with it in the Menai Straits, and Mr. A. Scott off Beaumaris. Dr. Lister adds that it is not uncommon in the Barmouth district.

136.—BLUE SHARK. *Carcharias glaucus* (Linn.).

MORGI GLAS = Blue Sea-Dog; SIERC = Shark.

Common in the west ; less frequent on the north coast.

This Shark is common during the summer and autumn, especially in the west. Mr. Gosling states that it sometimes

appears in great numbers off Aberffraw, whilst in Merioneth it is reported as met with occasionally at Llanbedr by Mr. H. G. Attlee, and at Barmouth by Dr. Lister. In the *Field*, 11th November, 1899, two are recorded taken in Herring-nets off Aberdovey, the largest measuring 10 feet and weighing 263 pounds. Dr. Jackson reports two others taken at the same place 11th July, 1903, eight more getting away with the tackle. From this it appears that the species swims in shoals. Small ones have frequently been taken by Mr. L. F. Lort in the Menai Straits. A specimen 5 feet 10 inches long in the Liverpool Museum was taken off the Great Orme's Head in September, 1882, whilst a small one was found below the Little Orme by Mr. G. A. Hutchinson, 7th October, 1902.

137.—PICKED DOG-FISH. *Acanthias vulgaris* Risso.

PICWT or CI PIGWD = Prickled Dog.

Common all round the coast.

This species is the commonest species of Dog-fish with the exception of *Scyllium canicula*. It is reported as sometimes very numerous off Aberffraw by Mr. Gosling, Barmouth by Dr. Lister, and Beaumaris by Mr. A. Scott. Mr. A. F. Martineau says that small ones are occasionally taken in drift-nets off Nevin, whilst Professor White describes it as common in the Menai Straits, and Mr. H. Thomas at Llandudno. This is the species mainly responsible for the havoc caused by Dog-fish to drift-nets. The Picked Dog-fish is viviparous; an example 4 feet long taken in the Rhos weir, near Colwyn Bay, in August, 1907, was found to contain 17 well-developed young, each about ten inches long.*

* *Birmingham Daily Mail*, 31st August, 1907.

138.—MONK, ABBOTT, OR ANGEL-FISH. *Rhina
squatina* (Linn.).

MAELGI OR MÂLGI = Smooth or Soft Dog.

Not uncommon ; occurs on all parts of the coast.

This fish is a connecting link between the Sharks and Rays, combining in itself many of the characters of both groups. Mr. E. Gosling frequently met with it off Aberffraw, and I have received it thence from Mr. R. D. Williams, as also from Barmouth through Mr. Wilson Roberts. Dr. Lister has occasionally seen it in the last-named district. It is not uncommon in the Menai Straits (White), Colwyn Bay (Walker), and along the north coast (Scott), where a very large one, estimated at 30 pounds, was trawled at the end of August, 1905, and sent to Bangor University Museum (Lort). Dr. J. Travis Jenkins has taken this species in St. Tudwal's Roads, Red Wharf Bay, and other places. It is a viviparous species, a large female producing as many as a dozen young, ten inches long.

139.—TORPEDO, OR ELECTRIC RAY. *Torpedo nobiliana*
Bonap.

SWRETHBYSG = Benumbing Fish.

Rare ; taken in the trawl occasionally.

The power of giving an electric shock renders the Torpedo so remarkable that it would not easily escape notice ; and the records of its occurrence in North Wales waters are so few that it is evidently very rare. Byerley records a specimen taken by a Hoylake fisherman in the summer of

1853, and Mr. Andrew Scott informs me he has seen one taken off the North Wales coast, whilst Professor White has had two from Carnarvon Bay. Mr. Evan Wright, fisherman, of Pwllheli, told me of one which he trawled near St. Tudwal's in June, 1902; he did not know the fish and was much astonished on touching it to receive an electric shock. He received a second shock on pushing it with an iron hook. The weight was estimated at about 20 pounds.

140.—COMMON OR BLUE SKATE. *Raia batis* Linn.

CATH FÔR or MÔRGATH = Sea-Cat.

Plentiful.

This is the largest of our Rays and, except the Thornback, the most abundant species in North Wales. In January, 1888, Mr. J. W. Watton caught one of 120 pounds weight at Llandudno. It is reported as more or less common off west Anglesey, round Lley, and at Barmouth. Mr. Gosling once caught one on a hand-line at Abberffraw which measured 7 feet across the "wings"; he frequently found Dog-fish and sometimes Lobsters and Octopuses in them. Dr. Jackson saw one taken in a trawl off Aberdovey which measured 7 feet across the wings and, after being partly cleaned, weighed 123 pounds.

141.—THORNBACK. *Raia clavata* Linn.

MÔRGATH BIGOG = Prickly Sea-Cat; MÔRGATH ARW = Rough Sea-Cat.

Abundant.

The Thornback is very common on all parts of the coast and at all seasons. Its flesh is largely used as bait by fishermen.

142.—HOMELYN OR SPOTTED RAY. *Raia maculata*
Mont.

MÔRGATH FANNOG = Spotted Sea-Cat.

Not uncommon off the north coast and round Anglesey.

Mr. Gosling reports this species as common off Aberffraw, Professor White has taken it in the Menai Straits, whilst Mr. Scott tells me he has met with it in Beaumaris Bay, off Abergele, and other places. Byerley records it from the entrance to the Dee Estuary, and Mr. W. H. Paull records one taken at Aberdovey in May, 1907. Professor Herdman suggests the possibility that the species described by Mr. E. W. L. Holt under the name of *Raia blanda* also occurs; the two are generally confused together. The Shagreen Ray, *Raia fullonica*, is reported by Dr. J. Travis Jenkins as trawled in Carnarvon Bay 26th May, 1905. Mr. G. A. Boulenger does not consider this specifically distinct from *R. maculata*.

[LONG-NOSED SKATE. *Raia oxyrhynchus* Linn.

Byerley in his *Fauna of Liverpool*, describes certain fish taken at Hoylake which were attributed to this species, as were also several taken on hand-lines at Aberffraw by Mr. Gosling.]

[FLAPPER SKATE. *Raia macrorhynchus* Raf.

Examples of this doubtful species are said by Messrs. Herdman and Dawson to have been taken occasionally in the trawl.]

143.—STARRY RAY. *Raia radiata* Donovan.

Not uncommon.

Professor Herdman describes this fish as being "caught occasionally by the trawl on hard ground at all times of the year on the 'off shore' grounds"; Professor White tells me it is not uncommon in the Menai Straits; Mr. L. F. Lort obtained one there on 24th August, 1904, while Mr. H. Thomas reports it as taken occasionally off Llandudno.

144.—PAINTED RAY. *Raia microcellata* Mont.

Reported only from west Anglesey and Tremadoc Bay.

The Painted Ray seems to have escaped the notice of all observers except Mr. E. Gosling, who caught a few specimens at Aberffraw, and Dr. J. Travis Jenkins, who took it in fourteen-fathom water in Tremadoc Bay, 21st June, 1905.

145.—SHARP-NOSED OR WHITE RAY. *Raia alba*
Lacep.

Not uncommon round Anglesey.

This species is not always distinguished from the common *Raia batis*. Pennant obtained it off Carnarvonshire and mentions one seven feet long taken in the Menai Straits in July, 1768. Large ones are still frequent round Anglesey where the bottom is mixed sand and boulders. Mr. E. Gosling took several very large ones on hand-lines off Aberffraw.

146.—CUCKOO-RAY. *Raia circularis* Couch.

Occurs in the Menai Straits.

Mr. Andrew Scott has met with this fish off Beaumaris, and Professor White in the Menai Straits. Dr. J. Travis Jenkins has taken it in seven to fourteen fathom water in Beaumaris Bay and two-and-a-half miles west of Gynfelin Patch buoy in the summer of 1905. *R. miraletus*, Couch, probably also occurs (Herdman).

147.—STING-RAY. *Trygon pastinaca* (Linn.).

MORGATH DDU = Black Sea-Cat.

Rare; has been obtained at Barmouth, in Menai Straits, and the Dee Estuary.

Dr. Lister informs me that the Sting-Ray has been taken occasionally off Barmouth, the last in 1901. A specimen in Bangor University Museum was obtained in the Menai Straits 23rd September, 1902. Byerley records one caught near Hilbre Island in 1851, but adds that it is rare.

148.—SEA-LAMPREY. *Petromyzon marinus* Linn.

LLYSWEN BENDOLL = Slit-headed Eel; LLEIPROG = Lamprey.

Not uncommon in estuaries and rivers near the sea.

This, the largest of the three *Petromyzons*, is met with from time to time in most of the rivers of North Wales near the sea, as well as in the Menai Straits, where Professor White has obtained it up to a length of thirty inches. It frequently

ascends the Dee as high as Rossett. Mr. W. A. Watts reports one two pounds in weight taken a few years ago in the Clwyd near St. Asaph. Mr. C. Lloyd Edwards records it in Llyn, and Dr. Lister at Barmouth, where they have been known, according to Captain Bailey, to ascend the River Mawddach above Llanelltyd Bridge. The Dovey, however, seems to be the most favoured river. Mr. R. M. Sutthery, who has fished it often, tells me that the Lampreys ascend this stream generally when the water is very low, usually in July, and in 1902 he saw about a dozen large ones taken above Cemaes—they were spawning; he never saw Lamperns there. Captain Buckley adds that in the late seventies Lampreys came up nearly to Dinas Mawddwy in such numbers that they were used to feed the pigs! They still occur there at times. The Sea-Lamprey used to ascend the Severn beyond Shrewsbury—one or two even in recent years. It must have reached Montgomeryshire in this way, for it appears in Pennant's list of fishes found in the River Vyrnwy.* Mr. A. George has heard of its being taken as high up as the Tanat in the neighbourhood of Llansantffraid.

149.—LAMPERN, OR RIVER-LAMPREY. *Petromyzon fluviatilis* Linn.

LLEIPROG = Lamprey.

Common in the principal rivers; also taken in the Menai Straits.

This medium-sized species ascends the rivers and even the smaller streams for a great distance from the sea, and is often numerous in the tributaries of the Severn, but it does not go up the rough waters of the mountain torrents. It is often found grouped together in bunches in holes in the gravelly bottom of some upland river.

* *Tour*, 1810 Ed. III., 222.

- ANGLESEY. }
 CARNARVON. } Several times taken in Menai Straits (White).
- DENBIGH AND FLINT. Numerous Colwyn Bay (Russell), Mold (Cooke), Ruthin (Radcliffe), in the Clwyd, St. Asaph (Watts), and in the Dee and Alyn, near Rossett (R. Venables). In the Dee (Walker and Byerley), Loggerheads, near Ruthin (Bullen).
- MERIONETH. In the Dee and smaller streams (Ruddy) about Bala (J. W. Roberts).
- MONTGOMERY. In Vyrnwy, Tanat, Severn, and Cain (Fort). Llansantffraid, scarcer than formerly (Kempster). Occurs Guilsfield (Mytton), Welshpool (Butterfield) and Llanerfyl (Harington).

150.—MUD-LAMPREY, OR PRIDE. *Petromyzon
branchialis* Linn.

Occurs in the Upper Severn and tributaries.

This is a smaller species than the last and is distinguished by the oblique position and horse-shoe form of the mouth. It probably occurs in many of the streams mentioned under the preceding species, if indeed some of the records do not apply to it rather than to the Lampern, since few people know the distinguishing characters of the two species. It has been recorded by Eyton and others in the Upper Severn and several of its tributaries, whilst Mr. A. George has seen it in the Cain.



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PRINTED BY WITHERBY & CO.,
AT THEIR PRINTING PRESS IN
MIDDLE ROW PLACE, LONDON, W.C.







